AMERICAN
JOURNAL OF INSANITY.
FOR OCTOBER, 1877.

THE FUNCTIONS OF THE GREAT SYMPATHETIC NERVOUS SYSTEM.*

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I propose to submit for your consideration to-day some thoughts upon the functions of the great sympathetic nervous system which have occupied my mind in a more or less coherent form for many years; and if it shall seem to you that certain of the ideas which I shall propound are contrary to received and well-grounded doctrines, and are therefore incorrect, I trust that you will not condemn them hastily, but as liberal men, belonging to a liberal profession, that you will calmly weigh them, and without prejudice adopt or reject them as shall seem to your judgment best.

Although it is necessary that you should have a tolerably clear idea of the structure and distribution of the great sympathetic nervous system, in order to follow me in the remarks which I propose to make, yet I do not intend to do more than to recall briefly to

*Read before the Association of Medical Superintendents of American Institutions for the Insane, held at St. Louis, Mo., May, 1877.

your minds the general outlines of this part of the subject, with which you are all of necessity more or less familiar.

You will recollect that the great sympathetic consists, in the first place, of a double chain of ganglia, over fifty in number, extending from the base of the brain along the sides of the spinal column to the coccyx; in the second place, of certain ganglia, such as the superficial and deep cardiac, the semi-lunar, and innumerable others, named and unnamed, scattered among the thoracic, abdominal, and pelvic viscera; and thirdly, of an almost infinite number of nerve cords, which may be divided into three classes; first, those which connect the sympathetic ganglia one to another, these are not strictly speaking nerve cords, though cord-like in form, but are prolongations of the ganglia, and are made up not of nerve fibres, but of nerve cells; next, those which connect the sympathetic ganglia with the nerve trunks and nerve centres of the cerebro-spinal nervous system; and lastly, those which take their origin in the ganglia of the great sympathetic nervous system, and are distributed to the various organs which are supplied with nerves from this nervous system.

It must not be supposed that this brief *résumé* gives any adequate idea of the extent of the distribution, or the amount of the aggregate mass of the great sympathetic. Probably no part of the body is entirely without sympathetic fibres, and the ganglia of this system are almost as universally distributed as are its nerve cords, so that the whole mass of the great sympathetic, though it can not be determined with anything approaching to accuracy, must be very much greater than is often supposed, and perhaps does not fall much short of the mass of the cerebro-spinal nervous system. Indeed, one author (Davey) goes so far as to say that

it "constitutes a great part of the volume and weight of the whole body."

In minute structure the great sympathetic is composed like the cerebro-spinal nervous system of cells and fibres. Neither its cells nor its fibres, however, are like those belonging to the brain and cord. There is enough difference in minute anatomy to make a thoughtful observer feel certain that there must be a decided difference of functions. The only other thing to be especially remarked about the anatomy of this great nerve, is the immense number and great complexity of its plexuses. These plexuses, speaking generally, are made up of nerve cords from different sympathetic glanglia, of filaments derived from spinal nerves, and often others from cranial nerves. That is, in a given plexus there will unite nerves from perhaps two, three, or more sympathetic ganglia, with filaments from one or more spinal nerves, and perhaps from one or two cranial nerves. From these plexuses the nerve cords proceed to their ultimate distribution, the object of the plexus seeming to be to bring together and combine these various elements in order to form an extremely complex nerve.

Now, as regards the ultimate distribution of the great sympathetic—a matter of great importance to us in deciding upon its functions. In the first place it sends branches to all the spinal and cranial nerves, which presumably follow the course of those nerves, and are distributed with them to the organs supplied with nerves by the cerebro-spinal nervous system. Secondly, it is probably distributed to the coats of all the arteries in the body, though the arteries carrying blood to the head, face, and glandular organs are better supplied by it than others. Thus the common, internal, and external carotids, the phrenic, the renal, the hepatic, the

splenic, the superior mesenteric, sacral, internal iliac, vesical, and uterine arteries are known to be freely supplied by it. Thirdly, the viscera—thoracic, abdominal and pelvic—are all supplied more or less abundantly with sympathetic nerves. I will mention the different organs in their order, according to the amount of the supply, relative to their mass, which they severally receive, as well as I have been able to make it out, but I must warn you that this classification is only approximative—between two such organs, for instance, as the spleen and pancreas, it is impossible to say which is best supplied. You will see as we go on that this classification, although imperfect, is somewhat important, in view of the deductions which we shall be able to draw from it.

At the head of the list, beyond all question, stands the heart; for it not only receives the six cardiac nerves from the upper, middle, and inferior cervical ganglia, and has four plexuses—the two cardiac and two coronary—entirely devoted to its supply; but it has also numerous ganglia imbedded in its substance, which are centres of nerve force for its own use over and above Next to the heart probably comes the radiating fibres of the iris. Then the supra-renal capsules. In the fourth rank stand, I think, the sexual organs, both male and female, the testes and ovaries being especially well supplied. The organs of special sense come next—the eye, the internal ear, the nasal mucous membrane, and the palate. Next after these organs must be placed the stomach, the whole intestinal tract, and the liver. In the seventh rank stand the thyroid gland, kidneys, spleen, and pancreas. Last of all comes the lungs which receive, in proportion to their size, a remarkably small supply.

There is just one thing more to say about the anatomy of our subject, before proceeding to its physiology,

and that is, to indicate a list of organs supplied by the sympathetic, and not by the cerebro-spinal nervous system. And it is well that you should bear in mind that this division of parts is not absolute, but relative; for, as the sympathetic in all its extent probably has cerebro-spinal fibres mixed with it, so all parts which are supplied with nerves by it, no doubt, do receive some filaments from the cerebro-spinal nervous system; but these fibres are small and few, and are, also, probably modified in their functions by being so intimately associated as they are with sympathetic nerves and ganglia. The division of organs, therefore, into those supplied by both systems, and those supplied by the sympathetic alone, though not an absolute division, is still a real one. In this list we have the radiating fibres of the iris, the arterial coats, the liver, the kidneys, the ovaries, the supra-renal capsules, the pancreas, and the intestinal tract, including both muscular coat and glands, and to this list, I believe, may be fairly added the body of the bladder and that of the uterus.

Now as to the functions of the great sympathetic. Some physiologists, as Todd and Bowman, seem to consider that the sympathetic differs very little in its functions from the cerebro-spinal system, and that, at least in some respects, its functions are identical with the functions of this latter nervous system. There are some general considerations which make this view of the subject appear to me unlikely to be correct. In the first place, though both nervous systems are made up of nerve cells and nerve fibres, yet the cells and fibres of the great sympathetic nervous system differ materially in structure from the cells and fibres of the cerebro-spinal nervous system, and it can scarcely be supposed that such different structures should not be manifested

by some corresponding difference in their functions. In the second place, the great sympathetic system in the arrangement of its parts, in the great number and extraordinary diffusion of its ganglia, and in the immense number and great complexity of its plexuses, is too unlike the cerebro-spinal nervous system for us to suppose that their functions can be anything like identical. Thirdly, the great sympathetic is distributed mainly to organs in the interior of the body that do not require, and are not endowed with sensibility—at all events, to anything like the same degree as obtains in the case of the external organs which are supplied with nerves by the cerebro-spinal nervous system. And lastly, if the great sympathetic has the power of exciting contractility in muscles at all, we shall see that this power is materially different from that possessed by the motor centres of the cerebro-spinal system.

What then are the functions of the sympathetic nervous system?

I shall consider this subject by seeking to give rational answers, deduced from acknowledged facts to the following five questions:

First. Is it a motor nervous system; and if so, in what sense?

Second. Is it endowed with sensation?

Third. Does it control the functions of the secreting glands, as the gastric, mammary, intestinal, salivary, lachrymal, the liver, kidneys and pancreas?

Fourth. Does it influence the general nutrition of the body; and if so, in what manner?

Fifth. Is it the nervous centre of the moral nature, that is, of the emotions?

Let us discuss these questions in their order.

The first question is: Does the sympathetic possess the functions of a motor nerve? The only muscular

structures which receive nerves from the sympathetic, and none from the cerebro-spinal nervous system, are the muscular coats of the arteries, the radiating fibers of the iris, and the muscular coat of the intestines. It would be almost, though not absolutely correct, to include in this list the bladder and uterus. Any nervous stimulation received by these organs, must, therefore, be sent from the great sympathetic, and that these structures are influenced by some nervous system is certain, as we shall see further on. We may, therefore, say positively, that the great sympathetic does act as a nerve of motion. You will notice, however, that all these structures are made up of unstriped muscular fibre; and you will further notice that all unstriped muscle, whether it receives any nerves from the cerebro-spinal nervous system or not, is well supplied by the great sympathetic. We shall be safe if we infer from these facts, that the great sympathetic is the nerve of motion to unstriped muscle. In the case of the heart, whose muscular fibres are striped, though they are not precisely similar to ordinary striped muscle, such as is supplied by the cerebro-spinal system and is under the control of the will, there seems to me no room to doubt that its movements are influenced by the great sympathetic. And this we must take as a partial exception to what I believe to be the law, namely: that the movements of striped muscle are controlled by the cerebro-spinal nervous system, and the movements of unstriped muscle by the great sympathetic. The only other exception to this law that I am aware of is the case of the circular fibres of the iris, which, being unstriped muscle, are supplied by the third cranial nerve.

If we apply the same reasoning to the solution of the question: Is the great sympathetic a sensory nerve?

we do not get a very clear answer. Parts supplied only by the great sympathetic, as the liver, kidneys, pancreas, supra-renal capsules, and ovaries, are probably scarcely if at all sensitive. Arguments as to the sensitiveness of these organs, drawn from their pathological conditions, I do not think of much value, for such pathological states usually involve the investing membrane of these organs, either by congestion of it, stretching of it, or in some other way, and we know that this investing membrane, the peritoneum, is well supplied by cerebro-spinal nerves, and is very sensitive. On the other hand, pathological conditions of these organs which do not interfere with their investing membrane—such as cancer of the liver in cases where all the cancerous nodules are buried in the substance of the organ and do not encroach upon the peritoneum—and many diseases both of the liver and kidneys leading to fatal disintegration of tissue, are quite painless. The organs which I have mentioned as being supplied solely by great sympathetic nerves are by their position well protected, both by being surrounded by sensitive tissues and organs, and by being invested by a highly sensitive membrane. They do not therefore require for their protection that they themselves should be sensitive, and I do not believe that they are so. Another fact which bears out this view remains to be mentioned. When organs analogous to those of which we have been speaking, other glands, as the mammary, salivary, or testes, are placed in exposed situations, they are then supplied with cerebro-spinal nerves as well as with nerves from the sympathetic; the sympathetic fibres being undoubtedly intended to control their functions, and the cerebro-spinal fibres to make them sensitive and so protect them from injury. For if, on the one hand, the great sympathetic fibres were

endowed with sensibility, there would be no occasion for a supply of cerebro-spinal nerves to these organs; or if, on the other hand, the cerebro-spinal nerves are not sent to furnish them with sensibility but to control, as some physiologists maintain, their secreting functions, then there would be no apparent reason why they should be supplied with great sympathetic nerves. All things considered, therefore, I am inclined to answer this question in the negative. I do not believe that the great sympathetic is endowed with sensation. Of course I do not mean that the great sympathetic has not afferent as well as efferent fibres—it doubtless has; but what I argue is that an afferent impulse along these fibres although it may and does awake a response in the corresponding gangliory, does not awaken sensation.

The third question is: Does the great sympathetic exercise a controlling influence over the functions of the secreting glands? I think there need be no hesitation about answering this question in the affirmative. The ordinary function of these glands might be supposed to be carried on independently of nervous influence altogether, though I do not think it at all likely that it is; for as in the healthy condition of the body the secreting process of every gland is carried on with reference to other parts besides itself, so there seems no means by which the function of a given gland could be so co-ordinated to the condition of other parts of the economy, except through the agency of a nervous system distributed to each, and through which a chain of intelligence—if we may use that word—can be maintained. If any nervous system performs the office here indicated, it must of necessity be the great sympathetic, for the following reasons:—The will has no influence

upon the functions of the secreting glands. In cases of general paralysis from disease or injury of the cord, the functions of the secreting glands are performed almost, if not quite as well as when the cerebro-spinal system is intact. The great sympathetic is the only nervous system which is distributed to all the glands, the liver and kidneys receiving nerves from no other.

As for the cases of extraordinary action, or want of action, of these glands, in some emotional states, as, for example, the excessive secretions of urine in fear, of tears in grief, and conversely the arrest of the buccal and salivary secretions in terror, the arrest of the gastric secretion from almost any marked emotional excitement, the well known increase, arrest, and alteration in quality of the mammary secretion from the influence of maternal love, terror, and rage; these can not be explained without referring them to the influence of some nervous system over the glands in question. I think, for the following reasons, that this nervous system is the sympathetic. In the first place, some of these glands, as the kidneys, receive no other than sympathetic nerves; and in the second place, the great sympathetic sends a liberal supply of nerves to all of them. It does not send nerves to those glands which are not supplied by the cerebro-spinal system, and very few, or none, to such glands as are supplied by it. On the contrary, if you will recall an attempted classification on a previous page of this essay, you will see that there the kidneys, which receive no nerves but from the great sympathetic, rank in the seventh order of organs, according to the quantity of sympathetic nerves which they receive. The testes, ovaries, the gastric and intestinal glands all come before the kidneys, as all receiving more sympathetic nerves than do these. Of these organs the ovaies, surpra-renal capsules and liver receive no cerebro-

spinal nerves, but the other organs all do, and some of them, as the testes and gastric glands, receive a tolerably large supply of nerves from this system. If, then, some secreting organs are certainly influenced by emotional states, through the medium of the sympathetic, and if the great sympathetic is supplied just as copiously, or more so, to other organs whose functions are also influenced by emotional states, is it not reasonable to conclude that the medium is the same in all cases, and that it is through the great sympathetic that emotional conditions effect the secretions?

But this is not all. We have seen above that it is a strict rule that secreting glands are supplied with cerebro-spinal nerves copiously, or the reverse, according to the degree of their exposure to injury from without; thus the salivary and mammary glands are well supplied, while the kidneys and liver receive no cerebro-spinal fibres at all. So, too, the testes are supplied with cerebro-spinal nerves, while the homologous organs in the female—the ovaries—are not. So that, on the one hand, without supposing that the cerebro-spinal nerves going to these organs have anything to do with their functions, we can understand why they are sent there; and, on the other hand, we have shown that they are not needed to explain the functional phenomena of these organs, for these are the same in glands which are, and in those which are not, supplied with cerebro-spinal fibres.

But there is still another word to say in support of this view, and it is this—cerebro-spinal nerves are either nerves of sensation or nerves of motion. Now in the case, for instance, of the mammary glands, which are supplied with cerebro-spinal nerves derived from the anterior and lateral cutaneous nerves of the thorax, those branches which are distributed to the mammary

glands are either sensory or motor nerves. Now if we suppose that these nerves control the secreting functions of the glands, we must either suppose that a motor nerve is able to take on this function, which does not seem likely, or we must suppose that it is accomplished by a sensory nerve, and in that case we must argue that the nerves in question are capable of carrying the current which has this influence on the gland the reverse way to its ordinary use, for the current in a sensory nerve flows from the periphery to the centre, but this current of nervous influence, of which there is now question, flows along the nerve from the centre to the periphery. If you will carefully weigh these considerations I think you will have no difficulty in agreeing to the following propositions:—That the great sympathetic can and does exercise a controlling influence over the secretion of glands, such as the kidneys, which receive no other nerves. That, as it is at least equally distributed to other glands which receive cerebro spinal nerves, and no other function appears for it to perform, it influences their secreting functions also. That cerebro-spinal nerves, when sent to glands, have another obvious function to perform besides that of controlling the secretions of these glands; and that it is consequently unnecessary to suppose that they do this likewise. And, finally, it does not seem likely, for other reasons, that the nerves derived from the cerebro-spinal system can or do influence the functions of secreting organs.

The fourth question is: Does the great sympathetic influence the general nutrition of the body; and if so, in what manner? The nervous power which controls nutrition must be universal since nutrition itself is universal. The great sympathetic nerve is distributed to the

whole system, while many parts are not supplied by the cerebro-spinal system. For all cranial and spinal nerves receive branches from the sympathetic which are undoubtedly distributed, at least in part, with the spinal and cranial nerves. Also all arteries are accompanied by sympathetic nerves, which are distributed to the same parts as the arteries. Besides this there are, without any doubt, as pointed out by Davey in his Work on the great sympathetic, hundreds of minute sympathetic ganglia scattered among the tissues and organs of the body which send filaments to the parts in the neighborhood of each of them, so that in fact the distribution of the great sympathetic nerve is probably absolutely universal, while the distribution of the cerebro-spinal system is far from being so.

The nutrition of paralyzed limbs, though not up to par on account of want of exercise, is still pretty well kept up; while if those limbs could be deprived of sympathetic nervous influence instead of cerebro-spinal nervous influence, we have reason to believe that their nutrition would fail absolutely, and that they would die.

If the sympathetic be divided on one side of the neck, the immediate effects of the operation are as follows: the corresponding side of the head and face is immediately very much congested, and the temperature of the same parts raises several degrees, (8° to 9°). The meaning of these changes would seem to be that the muscular coats of the arteries are paralyzed by division of the nerve which supplies them, and that oxidation of the tissues takes place too rapidly. Whether oxidation of the tissues is hastened in consequence of the congestion which is due to the paralysis of the muscular coats of the arteries, or whether it is due to a direct loss of nervous energy supplied by the sympathetic to the tis-

sues themselves, and by virtue of which retrograde metamorphosis is in the normal state of the parts held in check, or what part of the extra oxidation and consequent extra elevation of temperature is due to each of these causes, can not perhaps, be absolutely determined in the present state of our knowledge. It is in any case undoubtedly true, that either directly or indirectly the great sympathetic exercises a controlling influence over that process of cell growth and destruction which we call nutrition. To what extent the process of nutrition is dependent upon a supply of nerve force derived from the sympathetic is a more difficult matter to decide. We know that this process goes on in plants, and in animals too low in the scale to have a sympathetic system, though Davey believes that all animals have a sympathetic system, and that even plants have an analogous organ; but supposing that the ordinary view is correct, and that neither plants, nor animals very low in the scale, have a sympathetic system, then it would seem that the process of nutrition cannot be entirely dependent upon any kind of nervous influence. . But in that case, it would appear that, while going on under the general laws of chemico-vital selection, and of cell growth and destruction, which are common to all organized beings, the highest as well as the lowest, to plants as well as to animals, nutrition is still subject to what we may call a general supervision of the great sympathetic system.

The last question which we have to answer in regard to the functions of the great sympathetic, is: Is it the nervous centre of the moral nature? I believe it is. And first it will be necessary to define the meaning here attached to the expression, "Moral Nature." You will understand, of course, that I mean by it something

quite distinct from the intellect which, along with it, makes up the whole mind of man. Now we all know that the manifestations of these two, the intellectual and moral natures, commonly occur together. That is to say, the idea of a thing or person having arisen in the mind, a feeling of pity, tenderness, love, fear, hate, annoyance, or a feeling of some kind, arises at or about the same time, and is directly towards the same thing or person; and to all appearance the idea and the feeling arise together, and are simply two aspects of one mental act. Now, what I argue is, that this is not the correct view to take of the matter at all; but that either the idea at first arises and then the feeling which may be said to color it; or that the feeling having arisen primarily, it either suggests the idea by association and then colors it, or the idea being suggested by something else besides the feeling it is, all the same, colored by it to a greater or less degree.

The intellectual nature includes every kind and degree of thought, from the simple presentation of the image of a natural object to the mind to the most abstruse reasoning—it includes, among its divisions, perception, conception, memory, imagination, reasoning, comparison, abstraction, and judgment.

The moral nature, on the other hand, includes every form of passion and emotion, and some feelings that are not classed as passions or emotions, such as faith, courage and confidence. As an incomplete catalogue of the divisions of the moral nature, including some compound states partly ideational and partly emotional, I may mention,—and I purposely place the antithetic emotions in juxtaposition—love, hate; courage or faith, fear. And here I wish to say that after long consideration upon this point, and a careful and lengthened series of observations upon my

own mental operations, I am inclined to think, though I do not pretend to state it positively, that these four are the only simple emotional states; at all events, the only simple states that are included in the list here given. That these four are themselves simple emotional states I think is certain. The rest are compounds of one or more emotional with one or more ideational movements. Well, then, the list contains, simple emotions—love, hate; faith, fear. Then compound emotions—anxiety, security; trust, suspicion; joy, grief; high spirits, low spirits; exultation, dejection; triumph, despair; tenderness, surliness; patience, impatience; confidence, shame. Now, it must be borne in mind, that these moral states have all of them a wide range in degree. That, for instance, there is no difference in kind between a casual liking and the most intense love—between a slight feeling of dislike and the bitterest hate—between the faith that makes us take the word of an acquaintance for a few dollars and the faith which enables the martyr to walk exultingly to the stake—between the feeling of uneasiness that something may be wrong and the agony of extreme terror; and so through them all.

Without taking up too much of your time with the psychological side of this argument, I may say here that, given a certain number of ideational elements (simple concepts) and a certain number of moral elements (simple emotions), then the mind seems to be built up of these in accordance with certain laws which may be called the laws of their association. The first law is that the union of ideational elements (simple concepts) is more elementary and stronger than the union of ideational elements and moral elements, and that the union of ideational elements can be carried to any extent of which our minds are capable just as well without as with the presence of emotional states. The

second law is that one emotional element does not unite with another emotional element without the existence of an idea. That in other words, although a simple emotion may and sometimes does exist in the mind, unassociated with any idea, a compound emotion cannot so exist. The third law is found in chemistry as well as in psychology. It is, that binary combinations of concepts are more stable than tertiary combinations, and these than more complex combinations of concepts; and that binary combinations of a concept and a simple emotional state are more stable than tertiary combinations of these elements, and these than still more complex combinations.

If the brain is the organ of the intellect, and the sympathetic of the emotions, it seems to me that the greater complexity of structure of the first as compared with the last will throw some light on laws one and two, and also upon another very significant circumstance of the same kind, namely—that while we have an elaborate ideational memory we have no analogous register for the moral nature.

The complexity and fineness of the adhesions between ideas constitute largely the value of a given intellect. The union of ideas with emotional states makes up character. Our feeling towards individuals of our race as well those related to us or known to us as those whom we casually meet, our feeling to the race at large, to external nature, to the unknowable which surrounds us on all sides, to ourselves, to death, and, in fact, the strength of adhesions or want of adhesion between all ideas and all emotions is what we call character, in its infinite variety. With some people these bonds are exceptionally loose, and we say they are unstable, or we say such an one is weak or has a weak character; with another the bond is exceptionally firm, and we

say that such a person is obstinate, or that such an one possesses great firmness of character.

In the development of a race the formation of these bonds, almost infinite in number, and requiring to have a definite relative strength within certain limits of variation, is of at least as great importance as the actual development of either the emotional or intellectual natures. And derangement of these associations, the loosening of some, which are essential to life in a social state, and the formation, *de novo*, or the increased intimacy of union of others which are trivial, valueless, mischievous—I say such derangements of associations between moral states and intellectual concepts, and, going deeper, derangements of the union of intellectual concepts with one another, constitute the characteristic mental lesion in many cases of insanity, and such derangement probably constitutes a material part of all insanity.

Now the intellectual and moral natures being, for the sake of the argument, defined as above, I contend that they are functions of two different organs, or of two different parts of the same organ, for the following reasons:—A continuous current of ideational states and a continuous current of emotional states constantly exist and flow on together without interfering with one another, except through the association of certain ideas with certain emotional states. Any idea may exist associated with almost any emotional state. There is no fixedness of relation between ideas and emotional states, such as there would be if they were the concurrent functions of one organ. Any idea may exist without the co-existence of any emotional state. Any simple emotional state—fear, anger, love, or faith—may exist without being associated with any idea; that is, without the simultaneous existence of any thought. More-

over there is no relation between the intensity of emotional and intellectual action going on at the same time, as we should think must necessarily be the case if these two were functions of one organ; for during states of strong emotional excitement the intellect may be very active or the reverse, and during periods of intense intellectual activity there may be either a great deal of emotional excitement or very little. Another reason is that there is an absence of relation of development between the intellectual and moral natures which could hardly exist were these two functions of one organ—for in any given individual the intellect may be highly developed and the moral nature very ill-developed, or the reverse; so that we often see clever men with bad hearts, and men of excellent moral qualities who are very stupid. We all know instances of these two classes of men as well in actual life as in history. And passing from ordinary life downwards to that life which is below the ordinary level of humanity, the lower level upon which the individual stands may be due to deficiency of the intellectual or of the moral nature. For if the intellect is below the ordinary standard of humanity, we say the man is a fool; if still further deficient we say he is an idiot. But if it is the moral nature which is deficient in development, we say the man is a criminal either in act or at least by nature; and if the moral nature is still further deficient, we say the man is a moral idiot. But the fool may have a kind and affectionate heart, and the criminal a quick wit. The intellectual idiot may still have the fundamental affections of our race fairly developed; and the moral idiot, though his intellect is not likely to be of a high order, may be a long way from a fool. It is undoubtedly true that there is a certain relation between intellectual and moral defect, so that they are apt to

co-exist, but this tendency is not greater than is the tendency between allied organs, such for instance, as the cerebro-spinal nervous system and the great sympathetic, to be both well or ill-developed in a given organism. The intellectual and the moral natures being for these reasons presumably functions of different parts of the nervous system, or of different nervous systems, let us see if it be possible to determine what part of the nervous system the moral nature is a function of.

There are some general considerations which are calculated to raise a presumption in an unbiased mind that there may be a closer connection than is usually supposed between the great sympathetic and the emotional nature.

In the first place, as pointed out by Benjamin Richardson in his latest work, "On Diseases of Modern Life," we feel that our emotions have their seat not in our heads, but in our bodies; and the languages of all nations and of all times refer the emotions to the heart, in and about which organ are grouped the larger ganglionic masses of the great sympathetic system.

In the second place, the intellect is less developed and the moral nature more developed in woman than in man, and we know that the brain is smaller, and we have reason to think that the great sympathetic is larger, in the female than in the male sex of our species. I do not think a comparison has ever been made by direct observation between the great sympathetic in man, and the same organ in woman, but it has two large organs to supply in the female which do not exist in the male, viz.: the mammary glands and the uterus. It is certain, therefore, that the organ is larger in the female, by that much at least.

In the third place, there is the fact that all the functions which we know of as belonging without question

to the great sympathetic are what we may call by comparison with the functions of the cerebro-spinal nervous system, continuous functions for example:—the control of the calibre of the arterial walls, the slow and almost constant peristaltic action of the bowels, the regulation of secretion and nutrition;—while all the functions of the cerebro-spinal nervous system might be called by contrast, instantaneous functions—the reception of sense impressions, the act of thought, the contraction of a voluntary muscle or of a group of voluntary muscles—these functions are scarcely begun before they are ended. Now, it is easy to see into which of these groups emotions naturally fall. We do not love for an instant, as we think of an algebraic equation or of a point in diagnosis, and then cease for a time or altogether to love; on the contrary, we love for months, years, a lifetime. So with hate. Though we do not hate, most of us, fortunately, quite as persistently as we love, still we seldom hate for a few hours, or even days only, and we are apt to keep it up even weeks, perhaps months. Faith I consider to be with love the highest function of the moral nature. I do not mean anything like belief when I say faith; belief belongs to the intellect—is a part of the intellectual nature. The moral function faith is something that includes reliance, confidence and courage, and when it is possessed in large measure, and carried into matters of religion, the person possessing it is safe from at least half the ills of mortality. Without encroaching upon the domain of the theologian, we may say in a true sense that such a man is saved. This faith, like love, and still more than love, is constant for months, years, or a lifetime. Look now at the more momentary passions, such as anger or fear. We know that to become angry takes an appreciable length of time, some minutes, or even hours, according to the degree of mo-

bility of the individual nervous system acted upon, and according to the nature of the exciting cause of the anger, and that when the passion is fully aroused it continues for some time, sometimes for days, and then passes off slowly as it arises. The same may be said of fear. It is well known that after a great danger has been passed fear will often last for days or even weeks, and fear is never momentary.

A fourth consideration, which argues a connection between the moral nature and the great sympathetic nervous system, is what we may call the depth of both the one and the other. The great sympathetic is anatomically deep; it is buried out of sight; it does not come to the surface at any point; it has no direct connection as far as we know with the outside world. You know that in this respect it is in strong contrast with the cerebro-spinal nervous system, to which belong all the nerves of general and special sense, and which supplies all the muscles whose movements are visible on the surface, as well as the vocal organ. The great sympathetic has no such connections with the outside world at all; no sense organs, and no voluntary muscles belong to it; it has no vocal organ. Now how does the great sympathetic compare in these respects with the moral nature? I say it tallies exactly with this latter. For if you will consider a moment you will see that we can neither receive nor transmit moral impressions directly as we can thoughts. We can only receive moral impressions by their spontaneous growth within us, as most often in the case of love or faith; or if we acquire them in a more casual manner we get them through intellectual changes—for example: we see and realize a danger, and we have fear; we perceive an insult, and we become angry. The intellectual movement must precede the emotional movement.

The emotional life is under the intellectual life; as I said at first, it is deeper. Now, as with receiving, so with transmitting or expressing emotional states. I can tell you that I am afraid, or that I love. This, however, would not be an expression of emotion. This would be only an issue of intellectual paper intended to represent emotional gold, which last never leaves the vault of the bank. It is true, to a very large extent, that we can not express our emotions. We all feel and know this in every day life. I said just now that the great sympathetic has no vocal organ. So, too, the moral nature was born dumb. If we do attempt to express an emotional state we take round about or special ways to do it. For example: if I was very angry and wished to show it, or perhaps was compelled by my passion to show it without wishing it, I should do so by speaking in a loud voice, in a peculiar tone, by gesticulations and by facial expressions; and even then, with all this fuss, I should not express my moral state as clearly and fully as I could express any given intellectual state by means of a few calm words.

In further considering this part of our subject, we have to look at the problem from two sides, the converse of each other. First, we have to consider the different ways emotions are caused or excited, and see whether these causes are such as act upon the cerebro-spinal nervous system, or upon the great sympathetic. Then, secondly, an emotion being excited, we have to consider the effect of this emotion on the economy, and see whether those organs supplied by the sympathetic are primarily affected, and most affected by the nervous disturbance, which is the physical accompaniment of the emotion, or whether those organs supplied by the cerebro-spinal nervous system are those which are first and most affected.

We have, then, to consider, in the first place, emotional excitants, and to try to determine from their seat and nature, which nervous system it is that they act upon in giving rise to an emotional state. Now, emotions originate in three ways: first, spontaneously—that is, from some condition of the body or part of the body; secondly, they are excited by thoughts through associations formed in the past, either of the individual or of the race; thirdly, they are excited by impressions received through the senses without the intervention of thought.

A complete list of the instances in which emotions arise spontaneously, or from some condition of the body or part of the body, would be much too long to be recited here. I will first mention one or two physiological conditions, and then proceed to the pathological. And let us first notice the relation which exists between age and the activity of the moral nature in general. In childhood and youth you know that there is a constant and rapid succession of emotional states. A healthy, active child is either in a state of joy or grief nearly all the time while awake. Boys and girls are almost constantly either playing, quarreling, or sulking; that is, there is some active emotional condition present nearly all the time. Young men and women—that is, very young men and women—are almost equally liable to the constant domination of one emotional state after another. That is the age of impulse and passion—it is the age of bad poetry in the male, and of hysteria in the female. You know that this law is as well exemplified in the lower animals as it is in man—that lambs, kittens, puppies, and probably the young of all animals, are much more emotional than adults of the same species. But from childhood to maturity is not the age during which the higher

centres of the cerebro-spinal nervous system are especially active. These children who are so fond of play and so apt to sulk, and these poetical young men and hysterical young women, are not particularly either thoughtful or studious. There is, in fact, no reason to suppose that there is during this period any extraordinary activity of any of the higher cerebral centres. I say advisedly "higher cerebral centres," because we know that in youth the sensory motor tract of the cerebro-spinal nervous system is more active than it is later in life. But we also know that there is a most elaborate and intimate connection between this sensory motor tract and the great sympathetic; and we know too, that the actions of childhood and youth are prompted more by emotional impulse than by reflection; so that the great activity of the sensory motor tract of the cerebro-spinal nervous system during this period of life does not necessarily tell against my argument.

It is a fact, then, that in youth the moral nature is markedly more active than it is later in life, and it is a fact that the intellectual nature is not markedly more—that it is even less—active in youth than at maturity. And furthermore, it is a fact that the great sympathetic nervous system is very much more active in childhood and youth than it is afterwards, as shown by its universally acknowledged functions—for instance, by the greater activity of the circulation, by the greater activity of all the secretions, by the greater activity of digestion, assimilation and nutrition.

If then we join, as it seems to me that we must join, the excess of function to the more active organ, the inference is plain—it is, that the moral nature is a function of the great sympathetic.

The next most prominent physiological condition which gives rise to an emotional state is undoubtedly

that which underlies the development of sexual passion. The essential part of this condition is certainly an active and healthy state of the testes or ovaries; for if all the other conditions be present, and this organ alone be either absent, or materially injured by disease, or immature, or atrophied, or if it be functionally inert from any other cause, this particular emotional state can not be produced; while the absence or disease of no other organ will operate as a positive bar to its existence. The presence in the mind of the image of a person of the opposite sex, although to the unthinking it seems to be the chief factor in the production of this emotional state, has in reality nothing at all to do with it in any fundamental sense, for this emotion may exist without any such image being present, and being fully aroused it may with many people be readily transferred from one mental image to another, whereas if it were dependent upon the image this could not happen. It is in this way that we may account for those cases, frequently seen, in which a man, upon a very short acquaintance, marries a second woman upon the breaking off of an engagement with a first. Again, in the higher animals—in whom we must admit a mental structure in sexual matters, almost, if not quite, identical with our own—though some of them will not transfer their affections from one object to another, or will do so only with great difficulty, and after a certain period of mourning, yet in others there seems little or no cohesion between the mental image and the emotional state, so that the sexual glands being active, and the emotional condition in question being present, the individual upon whom the sexual favors may be bestowed is a matter apparently of entire indifference. These considerations seem to me conclusive against the theory that this emotional condition is dependent upon the mental

image, and the reasons above given seem also to establish the position that the state of the sexual secreting glands is the real determining cause of the emotion. This being the case, we have next to ask with which nervous system these glands are most intimately connected? You know what the answer to this question is. The ovaries receive no nerves but from the sympathetic, and the testes, as pointed out above, receive nerves from the cerebro-spinal nervous system only because they are exposed, and required to be endowed with sensibility for their protection. But if the sympathetic nerves be the connecting link between the organ whose condition excites the emotion, and the nerve centre in which that emotion arises, that nervous centre must be the sympathetic ganglia.

The pathological conditions which give rise to active emotional states are extremely numerous, and I wish particularly in this connection to draw your attention to the fact that it is invariably in lesions of organs well supplied by the sympathetic that these perversions of the emotional nature occur. As a rule, in diseases of the brain, spinal cord, and muscular system, there is little or no derangement of the moral nature; on the other hand, in diseases of the stomach, heart, liver, kidneys, supra-renal glands, and of the testes, ovaries and uterus, there is always some, and often great, disturbance of the emotions. In cancer of the stomach, ulceration of the stomach, and chronic gastritis, there is a good deal of emotional disturbance. You have no doubt all seen cases of dyspepsia in which constant low spirits, and occasional attacks of terror, rendered the patient's condition pitiable in the extreme. I have observed these cases often, and have watched them closely, and I have never seen greater suffering of

any kind than I have witnessed during these attacks. Now, how do we know that these pathological conditions of the stomach produce terror and low spirits by impressions conveyed through sympathetic nerves to sympathetic ganglia, and not by impressions conveyed through the pneumogastrics to the brain? We infer it because all the accompanying morbid phenomena are certainly due to disturbance of the sympathetic. Thus, a man is suffering from what we call nervous dyspepsia. Some day, we will suppose in the middle of the afternoon, without any warning or visible cause, one of these attacks of terror comes on. The first thing the man feels is great but vague discomfort. Then he notices that his heart is beating much too violently. At the same time shocks or flashes as of electrical discharges so violent as to be almost painful, and accompanied by a feeling of extreme distress, pass one after another through his body and limbs. Then in a few minutes he falls into a condition of the most intense fear. He is not afraid of anything; he is simply afraid. His mind is perfectly clear. He looks for a cause for his wretched condition, but sees none. Presently his terror is such that he trembles violently, and utters low moans; his body is damp with perspiration; his mouth is perfectly dry; and at this stage there are no tears in his eyes, though his suffering is intense. When the climax of the attack is reached and passed, there is a copious flow of tears, or else a mental condition in which the person weeps upon the least provocation. At this stage a large quantity of pale urine is passed. Then the heart's action becomes again normal, and the attack passes off. There is nothing imaginary about this description. It is taken word for word from the account given to the present writer by the actual sufferer, who is himself a highly intellectual medical man.

Neither is the description a summary of a number of attacks, but it refers to one particular attack, which was witnessed by the writer, and I am satisfied is absolutely accurate.

Now, what I wish to call your attention to is, that all disturbance of function accompanying one of these attacks is disturbance of function presided over by the sympathetic. We have seen above that the secretions are controlled by this nervous system, and I have mentioned how the salivary, lachrymal, urinary and cutaneous secretions are altered, both by diminution and increase, in these attacks. The heart's action is almost certainly under the control of the sympathetic, and it is greatly disturbed. The trembling, as more fully explained further on, is probably the phenomenon produced when voluntary muscles are acted upon, and thrown into action by the sympathetic nervous system. On the other hand, we have no indication that during the attack described, the cerebro-spinal nervous system is in any way excited or disturbed. The mind is clear; the reasoning and perceptive faculties alike in perfect order; the control of the will over the voluntary muscles through the medium of this nervous system is in no way interfered with; and in fact so little is the centre of ideation involved, that, as I have stated, no mental image is associated with the emotion of terror—the man suffers simply from fear, not from fear of something.

It seems then clear to me that the great sympathetic is the nervous system acted upon by the abnormal condition of the stomach, which nervous system in its turn reacts upon the economy, and consequently that the terror in question is one of its functions. The lungs receive a very small supply of sympathetic nerves, and we know that long continued disease of their tissue end-

ing in destruction of large parts of this tissue, and at last in death, will often scarcely give rise to low spirits, never to extreme depression, or to violent emotion of any kind. The heart receives a very large supply of sympathetic nerves, and its diseases, as fatty degeneration of its substance, and calcareous degeneration of its arteries, are accompanied by very great depression of spirits, and often by agonies of anxiety and terror.

The common forms of so-called heart disease—that is, imperfections of the cardiac valves, and contractions of the cardiac orifices—are not, in the sense in which I am now speaking, disease at all; for there is in these cases no tissue change—there is simply a change in mechanical conditions. The liver is moderately well supplied with sympathetic nerves, and there is a moderate amount of disturbance of the moral nature in cases of disease of its tissue, as in cancer, and impairment of its function, as in congestion; but as disease of the liver, either structural or functural, seldom or never occurs without structural disease, or at least functual derangement, of the stomach accompanying it, it is difficult to estimate the amount of the disturbance of the emotions caused by the hepatic conditions themselves. Emotional conditions excited by diseases of the kidneys are undoubtedly due in great part to the destructive changes going on in these organs, but they are also to a certain extent due to the uræmic poisoning which necessarily accompanies them, and so the effect of the blood change and of the organic change mask one another.

But the pathological condition most clearly in favor of my argument is beyond question Addison's disease of the supra-renal glands. You know that the number and size of sympathetic nerves sent to these small bodies is extraordinarily great. You also know that they receive no cerebro-spinal nerves at all. Any of

you who have ever seen cases of this disease are equally aware of the extraordinary effect produced by disease of these bodies upon the moral nature. Long before the patient is obliged by the degree of his illness to abandon his usual occupations he is greatly troubled with listlessness, langour, and low spirits, and as the disease advances these symptoms increase, and attacks of terror and extreme low spirits are common. Now, to return to our old argument. The morbid action is in the suprarenal gland. The nerves which convey the impressions which excite emotional disturbance are necessarily here sympathetic nerves. The nerve centre in which the emotional disturbance takes place is therefore one or more sympathetic ganglia. Therefore the sympathetic ganglia are the nervous centres of emotional states.

We have next to consider the excitation of emotions by thoughts from associations formed between them in the past of the individual or of the species. And here I may say that this clause must be purely psychological. Nothing which can be said under this head has any relation to any organ which may be specially related to the moral nature. It is only intended here to point out certain relations which emotions and thoughts bear to one another.

I shall confine my remarks upon this part of our subject to a short review of two prominent associations of this kind which exist not only throughout the whole human family, but which have a foremost place in the psychical life of all sentient creatures—namely, the Fear of Death and Maternal Love.

No one will deny that a strong bond of association exists between the emotion fear, and the thought of self death; for the thought of death apart from self death is not by any means so intimately connected with this

emotion. And when we actually lose by death those whom we most love, we grieve for our loss, not because a great misfortune has befallen them.

The intimate association between this emotion and this mental image is shown by the fact that if the emotion fear be primarily excited, as in such pathological conditions as those referred to above, the almost inevitable consequence is that the thought of self death arises at once in the mind, though the bodily health may be at the time tolerably good, and the person as unlikely to die then as at any other period of his or her life. On the other hand in a state of health let self death appear to the reason to be imminent, and with most people the emotion fear is felt in a lively manner within a very short time thereafter. Now why is this? Why does the emotion fear excite the idea of death, and why does the idea of death excite the emotion fear? It is not because we know death to be an evil, for we know nothing about it; and even if we knew it to be, past all doubt, a very great evil, that would not explain such an association as exists. For other things which we have every reason to believe to be the greatest evils, such as sin, poverty and disease have not—that is, the thought of them has not—the same intimate relation with the emotion fear. Neither is it because we fear the pain which often accompanies death, for if we had every reason to be sure that the death would be painless the fear would equally exist. Besides, when men actually come to die, either by some disease which leaves the mind intact, or by an execution, they have little or no fear. As soon as death is certain, inevitable, close, the Dweller on the Threshold departs and leaves the door between the known and the unknown open and the passage unobstructed.

The fact is that the association between fear and the thought of self death has no basis, so far as we know or

have reason to think, in the truth of things, but is purely artificial, and is, beyond question, the result of natural selection operating upon countless generations. For, given a race, either of men or of inferior animals in whom this association did not exist, and the life of that race, in such a world as this, where every species is surrounded and permeated by causes of destruction, will be a short one. But, given a race or a family of races emerging from unconscious into conscious existence, and through countless ages rising to higher and higher phases of life, and it is easy to see that, other things being equal, the individuals in whom this association began to exist ever so faintly would often live where their neighbors would die. They would transmit the association to their offspring, among whom the individuals in whom this psychical feature was more marked would have an advantage over those in whom it was less marked; and so the tendency would be for the association to grow stronger and stronger, until a point was reached in the history of human development, at which, on the one hand, reason began to protest against the closeness of this alliance; and on the other hand, the family affections and the sense of duty, and religion, began to take the place of crude fear and to make this association less necessary. The mastery of the higher emotions over the initial union is shown by the readiness with which men of the higher races face death in pursuance of what they consider to be a good cause, such as the cause of religion or of national honor. If this reasoning be true, and it is true, then here in the deepest part of our nature circumstances have compelled humanity through countless ages to affirm a lie. In the case of our own ancestors, the culminating point of this association was reached and passed before the separation of the Arian people on the plains of Central Asia—be-

fore the existence of the distinct races who spoke Sanscrit, Greek, and Latin. And we can only judge now what the strength of this union was then by the observation of races whose present stage of development is on a par with our condition at that time. And we know from the universal testimony of travelers, and many of us from our own observation, that fear bears a much larger proportion to the other emotions in the savage mind than in the civilized—that it is even absolutely more developed; and that its union with the idea of death is stronger in them than it is in civilized man.

The union existing between love in the bosom of the mother and the mental image of her child is as strong as, if not stronger than, any other association of a moral state with an idea. So strong is this association, that almost all kindly feeling, not only in the grown up woman, but in the female child as well, suggests this mental image in some form or other. In the child it takes the form of a doll. To the childless woman, a dog, or perhaps a cat, supplies the place of the infant which should exist but does not. On the other hand, the mental image of all forms of helplessness and infancy awaken in the female mind this motherly tenderness. This union is no doubt largely due, as in the case last considered, to the influence of natural selection, since this cohesion is as needful to the continuance of the life of the race as the other cohesion is to the continuance of the life of the individual. Why not, therefore, say of this, as of the other association, that it is a fraud perpetrated by circumstances? Why not say that this association also is purely artificial, and has no warrant in the truth of things? I hope some day to answer this question. I can not answer it here. The answer would be as long as several such essays as this. I may say here, however, that the question really is:—Does the central

fact of the universe, as it stands related to us, justify on our part Fear and Hate, or Love and Faith, or does it justify neither? I believe, and I believe I can show, that it justifies love and faith.* The associations are, both of them, undoubtedly, the fortuitous products of circumstances. But if love and faith are justified, and fear and hate are not, then it is certain that maternal love is justified, and that the fear of death is not justified.

The third and last class of emotional excitants which we have to consider consists of sense impressions acting upon the moral nature without the intervention of thought. The nerves of the special senses lead from the periphery directly to the cerebro-spinal nervous centres. So, as a rule, when sense impressions are followed by mental states, which last are aroused by them, the first phase of the mental state is a thought, the realization by consciousness that something is occurring in the outer world; and if an emotion is excited, it is so secondarily, by the association in the past of the idea directly excited with the emotion which is excited in the second place. This rule holds good as regards the senses of sight and touch more absolutely than as regards the other senses, and it is more true of sight than of any other sense.

The impressions received through the sense of taste can hardly be said, as a general thing, to excite thought. They do excite a sort of emotion. The sense of smell varies greatly in different individuals in its power of exciting thought or emotion. Oliver Wendell Holmes describes wonderfully well how in some people it calls up emotions. In others this sense excites ideas very readily,

*It may seem to some readers that this question has been fully answered already. It did not seem so to John Stuart Mill, of England, to Auguste Comte, of France, or to Arthur Schopenhauer, of Germany.

so that they can name a drug or other odorous body more readily from its smell than from its look. Others again can not name the commonest things from their odor. The excitation of this sense with them awakens a pleasant or disagreable sensation, and the effect stops there. But the sense of hearing stands apart from the other senses, in the degree to which it is capable of transmitting impressions directly to either the centres of intellectual or emotional life. Our knowledge of the anatomy of the nervous system is not minute enough to enable us to say why there exists these differences between the senses; why, for instance, sight awakens only ideas, and hearing either ideas or emotions according to certain differences in the sounds. We know that if we trace the optic nerves inward we shall find that they arise, by means of the optic tracts, from the posterior and superior part of the mesocephale, and are more or less connected to other parts of the brain in that neighborhood. If we trace the portio mollis of the seventh inwards, it divides into two roots; one of which passes deeply into the central part of the medulla oblongata, the other winds around the corpus restiforme to the floor of the fourth ventricle. Now if it were possible to trace these roots, and if upon tracing them to their origin it was found that one of them belonged to the great sympathetic system and the other to the cerebro-spinal, a most important link in the chain of my argument would be supplied. But we can not say that this is the case. Failing in this anatomical proof of a special connection between the auditory nerve and the great sympathetic, is there anything else about this nerve that would make us think that it contained sympathetic fibres? There is one thing. The auditory nerve is exceptionally soft in texture for a cerebro-spinal nerve—hence its name "portio mollis;" and we know that sympathetic nerve

trunks are softer in texture than the trunks of cerebro-spinal nerves. This fact might lead us to suspect that in the "portio mollis" there are sympathetic fibres mixed with cerebro-spinal fibres, but it can do no more than awaken such a suspicion.

Now, as to the sense of hearing itself. All the infinite variety of sounds that strike upon the human ear may be divided, according to their effect upon the human organism, into two great classes—those, namely, which primarily excite ideas, and those which primarily excite emotion. The noise of a carriage on the street, of fowl in the yard, of steamboats and trains passing, these and thousands of other ordinary sounds simply excite a mental recognition of what the sound proceeds from. But if you lie under pine trees on a summer's day and hear, without listening, the wind sigh and moan through the boughs, the emotional nature is moved, irrespectively of any idea that may be excited. So at the bedside of a sick child its moans and cries of pain affect us quite out of proportion to, and irrespective of, the value our minds may set upon them; for even if we know that the child is not dangerously ill, nor suffering very much, still we can not prevent, as is said in common language, its cries going to our heart. And they do go to the heart, or at least to the nervous centre of the emotional nature, direct. So a cry of pain or distress, heard suddenly, awakens a corresponding emotion in the hearer before any thought is aroused.

The types of these two classes of sounds are, on the one hand, spoken language, and, on the other hand, music. The former we know appeals directly to the intellect, and does or does not arouse emotion, according as the thought awakened is or is not associated with an emotional state. The latter we also know appeals directly to the emotions, and only awakens thought secondarily,

if it does so at all. Now, does that class of sounds which appeals directly to the moral nature possess any quality which the other class does not possess, which would make us think that it, rather than the latter, acts upon the sympathetic? It has one such quality—viz., rhythm. All music is rhythmic, and all language which appeals most directly to the emotions, that is to say all poetry, is also rhythmic. Now rhythm is one of the leading qualities of the functions of the great sympathetic. All motions governed by it are rhythmic—the heart's motion, the peristaltic motion of the intestinal canal, and the contractions of the uterus in labor. I myself have no doubt that the period of utero-gestation, the determining cause of which has puzzled the world so much, as well as the periodic recurrence of ovulation, are both due to the same cause—namely, the rhythm, or periodicity of function of the great sympathetic nervous system. Doubtless the chief advantage of regularity of time in taking meals is due to the fact that the gastric and salivary glands, and other organs concerned in digestion, being governed by the sympathetic, their functions are best performed rhythmically. The rhythmic, daily rise and fall of temperature, both in health and disease, is another example of the rhythm of a function which is under the control of this nervous system.

The only thing that remains now for me to do to complete this very imperfect sketch of a most important subject is to consider briefly the expression of the emotions, to see if we can determine from which nervous system these phenomena proceed. As we can not pretend to discuss the whole of this branch of the inquiry, I shall limit the few remarks I have to make to the expression of joy, grief, hate, fear, and to the expression

of, or rather the effect of, long-continued excessive passion of any kind.

If joy is at all marked in degree it alters the heart's action; if excessive and sudden it arrests it momentarily; if more moderate in degree it makes it more frequent and stronger. Excessive joy causes pallor for a short time, and then slight flushing; moderate joy hightens the complexion. If joy is at all extreme it excites lachrymation in persons of mobile nervous organization. Sudden and great joy destroys the appetite, apparently by checking the salivary and gastric secretions; moderate joy stimulates the appetite, doubtless by exciting the secretions which assist in digestion.

Now, all the above are disturbances of functions which are controlled by the sympathetic; but we know that joy also gives rise to movements of various kinds—for instance, laughter, clapping of the hands, stamping of the feet, which are performed by voluntary muscles under the control of the cerebro-spinal nervous system. The peculiarity of these movements is that they are all rhythmical, and we know what a tendency there is for the functions of the sympathetic to be performed rhythmically. And further they are all objectless; the intellect takes no cognizance of them, and no purpose or intention underlies them.

Now, I do not mean to argue that it is the great sympathetic which excites the muscles to action in the production of these movements; but what I would suggest for your consideration is that the great sympathetic, being the nervous system primarily excited, it excites the cerebro-spinal system by means of its elaborate connection with the latter, and the cerebro-spinal system, acting under the influence of the great sympathetic, the character of the action of the former is stamped by the influence of the latter.

Grief is expressed by tears, pallor, loss of appetite—phenomena which belong to functions under the control of the sympathetic; by sobbing, wringing of the hands, and swaying to and fro of the head and body—motions which are under the control of the cerebro-spinal nervous system and which are rhythmical. Excessive grief kills. I have known of one death which was plainly due to this cause. The fatal result of grief is due to interference with nutrition or with the heart's action, the event in either case being brought about through the sympathetic.

Hate or rage, if intense, is marked by pallor and partial arrest of the heart's action; if moderate, by flushing; if considerable, but still not intense, the flushing is extreme, the face becomes purple, the veins of the neck and forehead swell. Monkeys, as well as men, are said to redden with passion. Some authors say the pupils always contract in rage, and this we can easily understand; for if the muscular coat of the arteries is relaxed, as it is shown to be by the distension of the vessels, which causes the flushing, then the radiating fibres of the iris, which are also supplied by the sympathetic, would be equally in a semi-paralyzed state, and the circular fibres, which are supplied by the third nerve, would have less than usual to antagonize their ordinary tonicity, and the pupils would contract. In great rage there is often trembling. This phenomenon I shall consider further under the head of fear. The above mentioned are the primary signs of rage, and they are all functional changes, effected through the sympathetic. Other signs of rage, such as snarling, setting the teeth, clenching the fists, are manifestly secondary. They result from an intention in ourselves, or in our ancestors, to do something in consequence of rage, and are not the direct effect of the passion itself.

The disturbances of function which accompany fear are frequent and feeble action of the heart, pallor, and dilatation of the pupils. And I wish you, particularly, to remark that whereas in rage there is flushing of the face and contraction of the pupils, as I have shown above, in fear there is pallor of the face and dilatation of the pupils—the muscular coats of the arteries and the radiating fibres of the iris, being both supplied by the sympathetic, are both stimulated to contract under the influence of terror, and are both relaxed in rage. In fear there is also suppression of the salivary and gastric secretions, extreme dryness of the mouth, and complete abeyance of the appetite; there is frequently increase, sometimes very marked, of the urinary and intestinal secretions.

Trembling is one of the most characteristic signs of fear. This is a movement of the voluntary muscles; but it is not a voluntary movement, the will having no control whatever over it. Trembling occurs in other emotional conditions besides fear, as in joy and rage. The shaking of ague, though not associated with any emotional state, is, I have no doubt, closely connected with emotional trembling. No author with whose works I am acquainted gives any explanation of this phenomenon. Were I to attempt an explanation myself, it would be that trembling is the peculiar movement of the voluntary muscular tissue when thrown into action, not by its own proper nervous system, the cerebro-spinal, but by the sympathetic. And I would argue that this was the correct view of the case—first, because it is certain that trembling occurs when the sympathetic is highly excited; secondly, because the cerebro-spinal nervous system can not, as far as we know, cause such a movement, and can not control it when caused; and thirdly, because of its peculiar rhythmical character,

which allies it to other movements originating in the sympathetic.

If I had space, which I have not at present, I could support these arguments by showing, I think conclusively, that ague, of which a peculiar trembling is one of the most prominent symptoms, is certainly a functional disorder of the great sympathetic, and it is upon this fact that its peculiar rhythm or periodicity depends. With regard to the sweating of great fear I have no explanation to give. I will simply remark that, when, by division of sympathetic trunks, a part of the surface is to a great extent deprived of its connection with the sympathetic centres, that part of the surface is bathed in sweat.

I have quoted very few experiments upon the sympathetic in this essay, for the reason that I put very little confidence in the deductions drawn from them. To divide large sympathetic trunks, or to remove large sympathetic ganglia, must cause a disturbance of the general system which would necessarily mask, to a great extent, the peculiar effects flowing from the lesion of the nerves operated on; and any one who has paid attention to the literature of this subject can not have failed to notice how contradictory are the positions supposed to be established by these means. Without denying that experiments may in the future throw light on this branch of physiology, I think it is safe to say that they have thrown very little upon it yet.

If there is one fact in relation to the functions of the great sympathetic better established than any other, it is that this nervous system exercises a most decided control over the process of nutrition. Now I beg of you to consider for a moment, what a curious relationship exists between the process of nutrition and the habitual state of the moral nature. The best observer

of man that ever lived on this planet makes Cæsar say to Antony:

> Let me have men about me that are fat.
> * * * * * *
> Yond' Cassius hath a lean and hungry look.
> He thinks too much; such men are dangerous.

Shakespeare says, what we all know, that men in whom dwell a preponderance of evil passions, such as hate, envy, and jealousy, are as a rule ill-nourished. The converse of this is as notorious, so that fat and jolly go together as naturally as do any two terms in the language. Not only does this general law hold, though liable to many exceptions, from the operation of other laws interfering with it, but we find it equally true that any long-continued, inordinate passion, be it sexual love, hate, envy, or grief, is capable of influencing nutrition in a marked manner. Long-continued thought does not produce any such effect. If it seems to do so sometimes it is because the student deprives himself of air, exercise and sleep, in his ardent devotion to knowledge. Newton was as fat when he finished the "Principia" as when he began it. The writing of the "Novum Organum" did not reduce Bacon's weight a pound. Shakespeare, in whose splendid brain fermented all the ideas of his time—and it was a time, perhaps, of more ideas than the present, much as we pride ourselves in this respect—was a well-nourished man. The moral natures of Newton and Bacon were calm and serene. Shakespeare's heart glowed with a genuine love of humanity. If the moral nature be, equally with the intellectual, a function of some part of the cerebro-spinal nervous system, why are the undoubted functions of the great sympathetic so intimately connected with the former and so entirely unconnected with the latter?

In conclusion, were I to attempt to draw a comparison in a few words between the functions of the cerebro-spinal nervous system and those of the great sympathetic, I should say that whereas the cerebro-spinal nervous system is an enormous and complex sensory-motor apparatus, with an immense ganglion, the cerebrum, whose function is ideation, superimposed upon its sensory tract, and another, the cerebellum, whose function is the coordination of motion, superimposed upon its motor tract, so the great sympathetic is also a sensory-motor system without any superimposed ganglia, and its sensory and motor functions do not differ from the corresponding functions of the cerebro-spinal system more than its cells and fibres differ from those of this latter system; its efferent or motor function, being expended upon unstriped muscle, and its afferent or sensory function being that peculiar kind of sensation which we call emotion. And as there is no such thing as coordination of emotion, as there is coordination of motion and of sensation, so in the region of the moral nature there is no such thing as learning, though there is development. And in the moral nature the ignorant man, or the uneducated woman may be, and often are, superior to the cultivated members of our race.

Upon the above view of the relative functions of the two great nervous systems, the only efferent function of the sympathetic is stimulation of unstriped muscle; and we should have to view its influence upon secretion and nutrition as due to its power of contracting or allowing to dilate the coats of the arteries. And this is in all probability very near the truth. Looked at in this way, the bulk and complexity of structure of each nervous system seem to correspond with the scope of its functions; for the sensory-motor functions of the

cerebro-spinal system, including ideation and coordination of motion, would be as much in excess of the functions of the great sympathetic nervous system in amount and complexity as would the ganglia of the former be in excess of those of the latter in complexity of structure and bulk.

NOTE.—Though in this essay I have spoken of the intellect as a function of the cerebrum, and of the moral nature as being a function of the ganglia of the great sympathetic, I do not wish it to be understood that I pretend to know anything about the real relation which subsists between these organs and these mental manifestations. I have simply used this word as the most convenient expression I could find for some certain connection, the exact nature of which is unknown.

PROCEEDINGS OF THE ASSOCIATION OF MEDICAL SUPERINTENDENTS.

LINDELL HOTEL, ST. LOUIS, May 29, 1877.

The Association was called to order at 11 A. M., by the President, Dr. Charles H. Nichols:

Fellows of the Association the hour for our Thirty-first Annual Meeting has arrived, and we will proceed to business. I have the pleasure of introducing the Honorable Mr. Overstoltz, the mayor of the city in which we are convened.

His Honor then addressed the Association:

Gentlemen of the Convention: As the representative officer of the City Government, I appear here to tender you, on behalf of our people, a sincere and cordial welcome to St. Louis. We esteem it an honor that our city should be the scene of your deliberations, and we regard with interest and respect the noble and benevolent purposes which you are assembled to promote. In this progressive Western metropolis, our chief and constant study is the advancement of mercantile and industrial enterprises, but we have not forgotten the axiom that there can be no true prosperity without philanthropy. The spirit of Christian civilization quickens the conscience and heart at the same time that it excites the generous rivalries of commerce, and puts in play the boundless energies of true industry. It is a spirit of progress, discovery and invention, restless as the sea and untiring as the wind, yet always aiming at one paramount object, the elevation and prosperity of the human race. It stimulates personal and national ambitions, but at the same time it is tempered by benevolence, bind society with a silver cord of sympathy and puts at work a thousand practical agencies to mitigate suffering and to explore and remedy its causes. It is the brightest characteristic of the American people that amid their busiest scenes—in the youngest and most robust cities, where it might be supposed that self interest would engross the thoughts—there is found the most practical

charity and the most extensive institutions for the care of the afflicted.

The convention here assembled represents the philanthropy and benevolence of this country, and I am proud to be able to say that the city where it meets is in the fullest accord with its objects and purposes, and regards as the most important branch of its municipal system the management of institutions kindred to the subject of your deliberations.

The existence of your Association, gentlemen, has, I have reason to believe, exerted a powerful influence in advancing the welfare of the unfortunate class to which your lives are devoted. It certainly promotes a correct knowledge of the treatment of the insane, and gives to the profession and the world the latest fruits of experience and observation. This result is in gratifying correspondence with the honor already achieved in this country in this department of medical science. More than thirty years before Europe, stirred by a spirit of enlightened philanthropy, had provided suitable institutions and humane and intelligent medical treatment for the insane, our incipient Republic established at Philadelphia, in 1750, the first Insane Asylum, based on what are now known to be the only true scientific principles, both as to construction and management. The mad man of the old world was still chained like a wild beast or imprisoned in darkness, when the young nation, just arising into being amid the stern forests, had discovered a new and better way of treatment. The benevolent movement, thus modestly originated, spread beyond the oceans, and has ameliorated the sufferings of thousands throughout the older civilizations of Europe, while it has given birth here to a system of State Asylums that is an honor to humanity.

In the United States, institutions of this character have multiplied to sixty-nine, having an average capacity of three hundred and thirteen patients, maintained at an average cost per patient of $257.69 per annum, and constructed at an average cost for each patient accommodated of $996.00. The people of the States have spent in the aggregate considerably over $30,000,000 in the construction of asylums, and more than $7,000,000 is annually expended to maintain them. These few figures illustrate the magnitude of the interest, lodged in the hands of the members of this convention, not only as guardians of thousands of helpless beings, but as custodians of this vast property and disbursers, to a large extent, of this enormous annual outlay. The management of asylums, under State or municipal jurisdiction, has a financial

aspect that is important to taxpayers, and in this connection your discussion may be fruitful in developing many useful ideas.

To avoid extravagance in architectural design and in management, and yet to meet all the requirements of the most enlightened treatment, is a problem we do not always find happily solved in connection with asylums. The Institution in this city, which is maintained by the municipality without State aid, is well located and constructed, yet its capacity is not in proper proportion to its cost. The light, ventilation and convenience of the building, are excellent; but the number of inmates that can be satisfactorily accommodated is considerably less than our people had a right to expect for the money expended. This defect might have been obviated by a more accurate and practical knowledge of the requirements of such an institution, and in the diffusion of information of this character, such assemblies as yours, gentlemen, must exert an important influence. So also in reference to the classification of patients, and the selection of guards and attendants, and other questions of vital importance in the treatment of the insane, which create such serious responsibilities for managing boards and local authorities, many valuable suggestions may be derived from the reports of your proceedings. For these practical reasons, gentlemen, and because of a deep general sympathy in your noble aims and purposes, the officers of our government and the citizens of St. Louis feel an active interest in this convention, and are desirous that your visit should be equally agreeable and profitable. I have pleasure in tendering you the hospitality and freedom of the city, and hope to enable you to visit our parks and institutions, under circumstances that may contribute to the pleasant memories of this occasion.

The PRESIDENT. Mr. Mayor, without notice or preparation it is quite out of my power to adequately acknowledge the indebtedness of this body to you for your able and enlightened address and for your proffer of hospitality to its members. Nor is such acknowledgment necessary at this time, perhaps, from the fact that the Association is in the habit of acknowledging, in a series of carefully prepared resolutions, passed near the close of its annual session, such addresses, invitations, hospitalities, and other courtesies as it receives in the course of its meetings, and it will, without doubt, acknowledge its indebtedness to you, and the liberal people whom you represent, in that way. I will assure you now, however, in a word, that the Association highly values your enlightened appreciation of the purposes, responsibilities and labors of this body.

Mayor OVERSTOLTZ. I desire to say to you again that I am anxious to make your stay in this city as agreeable as I can make it, on my part; and if you, gentlemen, will designate at an early day, about what time it will suit your convenience to meet me, and have you go with me to see such objects as may be of interest, and pay a visit to our public and charitable institutions, I shall be most happy to accommodate you.

The PRESIDENT. What has just fallen from you, Mr. Mayor, with the view of giving practical effect to the kind invitations and proffers embraced in your address, adds materially to our sense of indebtedness to you personally, and to your people. It is customary for the Association to appoint a business committee, to which is confided the duty of fixing the time of accepting such invitations as you have just extended to it. Perhaps this committee will be appointed to-day. When it is appointed it will confer with you in relation to the most suitable time to visit the charitable institutions of St. Louis.

The minutes of the last meeting were then read. The following members were present during the session of the Association:

A. T. Barnes, M. D., Illinois Southern Hospital for the Insane, Anna, Ill.

C. K. Bartlett, M. D., Minnesota Hospital for the Insane, St. Peter, Minn.

J. K. Bauduy, M. D., St. Vincent Asylum, St. Louis, Mo.

H. Black, M. D., Eastern Lunatic Asylum, Williamsburg, Va.

D. F. Boughton, M. D., State Hospital for the Insane, Mendota, Wis.

R. M. Bucke, M. D., Asylum for the Insane, London, Ontario.

W. H. Bunker, M. D., Longview Asylum, Carthage, Ohio.

J. H. Callender, M. D., Tennessee Hospital for the Insane, Nashville, Tenn.

T. B. Camden, M. D., Hospital for the Insane, Weston, West Va.

H. F. Carriel, M. D., Central Hospital for the Insane, Jacksonville, Ill.

Geo. C. Catlett, M. D., Lunatic Asylum, No. 2, St. Joseph, Mo.

John B. Chapin, M. D., Willard Asylum for the Insane, Willard, N. Y.

W. S. Chipley, M. D., Cincinnati Sanitarium, College Hill, Ohio.

Daniel Clark, M. D., Asylum for the Insane, Toronto, Ontario.

Wm. M. Compton, M. D., State Lunatic Asylum, Jackson, Miss.

John Curwen, M. D., Pennsylvania State Lunatic Hospital, Harrisburg, Pa.

Orpheus Everts, M. D., Hospital for the Insane, Indianapolis, Ind.

F. G. Fuller, M. D., State Hospital for the Insane, Lincoln, Neb.

John P. Gray, M. D., State Lunatic Asylum, Utica, N. Y.

Eugene Grissom, M. D., Insane Asylum of North Carolina, Raleigh, N. C.

Richard Gundry, M. D., Columbus Hospital for the Insane, Columbus, Ohio.

Wm. B. Hazard, M. D., St. Louis, Mo.

H. K. Hinde, M. D., Assistant Physician, Lunatic Asylum, No. 1, Fulton, Mo.

A. De V. Howard, M. D., Lunatic Asylum, St. Louis, Mo.

C. H. Hughes, M. D., St. Louis, Mo.

Walter Kempster, M. D., Northern Hospital for the Insane, Winnebago, Wis.

Thomas H. Kenan, M. D., Assistant Physician, Lunatic Asylum, Milledgeville, Ga.

E. A. Kilbourne, M. D., Northern Hospital for the Insane, Elgin, Ill.

L. R. Landfear, M. D., Dayton Hospital for the Insane, Dayton, Ohio.

C. F. Macdonald, M. D., State Asylum for Insane Criminals, Auburn, N. Y.

Andrew McFarland, M. D., Oak Lawn Retreat, Jacksonville, Ill.

Charles H. Nichols, M. D., Government Hospital for the Insane, Washington, D. C.

Joseph A. Reed, M. D., Western Pennsylvania Hospital for the Insane, Dixmont, Penn.

James Rodman, M. D., Western Kentucky Lunatic Asylum, Hopkinsville, Ky.

John W. Sawyer, M. D., Butler Hospital for the Insane, Providence, R. I.

Charles W. Stevens, M. D., St. Louis, Mo.

J. Strong, M. D., Cleveland Hospital for the Insane, Newburgh, Ohio.

Clement A. Walker, M. D., Boston Lunatic Hospital, Boston, Mass.

D. R. Wallace, M. D., Texas State Asylum, Austin, Texas.

J. M. Wallace, M. D., Asylum for the Insane, Hamilton, Ontario.

Also by invitation.

S. R. Wells, M. D., Trustee Willard Asylum, Willard, N. Y.

G. F. Chittenden, M. D., Commissioner of Hospital for the Insane, Indianapolis, Ind.

Rev. F. H. Wines, General Secretary of the Board of Public Charities of Illinois.

Dr. Wm. Corson and Gen. James A. Beaver, Commissioners of the State Hospital for the Insane, Warren, Pa.

C. F. Wilbur, M. D., Superintendent for the School for Feeble Minded Children, Jacksonville, Ill.

On motion of Dr. Stevens, it was resolved that the members of the Board of Health being Trustees of the St. Louis Insane Asylum, be invited to take seats with the Association.

On motion of Dr. Compton, it was resolved that the President be requested to appoint the usual Standing Committees.

The Secretary read letters from Drs. Kirkbride, Jelly, Eastman, Smith, of Missouri, DeWolf, Wilkins and Parsons, regretting their inability to attend the present meeting.

Various invitations were received to visit different institutions in the city, which were referred to the Committee on Business.

The President announced as the Committee on Business, Drs. Stevens, McFarland and Curwen.

On motion a recess was taken for fifteen minutes.

On re-assembling it was, on motion, resolved that the medical profession of St. Louis be invited to take seats with the Association.

The Committee on Business made the following report, which was, on motion, adopted:

The Committee on Business respectfully report that the Association continue in session until 1 P. M. Meet at 3 P. M. and adjourn at 6 P. M., and meet at 8 P. M. Meet on Wednesday, at 10 A. M., for business and reading of papers, and adjourn at 1 P. M. Spend

the afternoon at St. Vincent's Asylum, and hold a session there, and meet at the hotel at 8 P. M. Meet at 10 A. M. on Thursday, for business and reading of papers, adjourn at 1 P. M., and take an excursion down the river in the afternoon, and hold a session at 8 P. M. Meet at 10 A. M. on Friday, for business and reading of papers, adjourn at 1 P. M., and visit the charitable institutions under the care of the city in the afternoon. Meet at 10 A. M. on Saturday, for business and reading of papers.

On motion, Rev. F. H. Wines was invited to take a seat with the Association.

The President then called on the members for the report on the condition of the insane, and the provision for their care and treatment in the several States.

Dr. GUNDRY. Mr. President, I have not very much to say about progress in Ohio, except that we have kept steadily at work for the development of the system which I presume I may call the Ohio system—gradually extending our institutions so as to take in every insane person in the State. The State has, since we last met, filled up the institution which Dr. Strong superintends. I believe that is now filled to its full capacity. The Dayton Asylum—my old home—is also full. Athens, more recently my home, was full to over flowing in January; and now the Institution, with which I lately became connected, is about to be opened with a capacity for nine hundred, to receive the rest of the patients in the State. It will be opened, I think, somewhere in the course of the next two or three months, and be ready to receive the whole of that number. We shall probably transfer from the other institutions about seven hundred, and their places will be refilled, so far as vacancies exist, by the chronic insane in the various counties in our State. And I may add, gentlemen, wherever a new institution has been opened in Ohio, every additional bed it affords means the reception of chronic cases, because our first duty always was the reception of the acute cases even, when necessary, by the discharge of old chronic cases. This always has been the law—the policy of Ohio—and it is plainly a good one, but it was carried out for a long time at the expense of the chronic cases which simply arose from the necessity for more room. Now we have reached that condition where I think for a while we shall get on without the necessity of rejecting any cases, of but course the time will come when the hospitals will not be adequate for the

reception of cases belonging to their district. The State is now divided into four districts—five indeed, including Longview, a hospital in each of which is to receive all the patients of its district. And the State is now pledged to that policy in such a way that it cannot well recede honorably. At the last meeting of the Legislature, this legislation was passed, which has, so to speak, put the capstone upon the edifice that Ohio has erected. The pledge is the following joint resolution of the Ohio Legislature: "That it shall be the duty of the State Board of Charities, within ninety days after the opening of the Columbus Hospital for the Insane, to report by name, with so much of the personal history as may be deemed important, all insane inmates of county infirmaries who shall have been declared insane by inquest of lunacy, according to law, to the superintendent of the hospital for the insane in the district in which said county may be located, who is hereby required, so soon thereafter as practicable, to receive said patients without any further proceedings being had; provided that in each hospital for the insane fifty beds shall be reserved for the reception of recent cases at the time this resolution takes effect; and also that if the quotas of each county shall be more than filled by such transfer of these inmates, and the hospital be filled, then such patients whose disease is complicated with epilepsy shall not be transferred.

"That from and after the expiration of said ninety days, it shall not be competent for directors of county or city infirmaries to receive to the care of such institutions any insane person whatever, for any period of time beyond what may reasonably be required to secure the transfer of such insane persons to the State hospital for such district, unless by written permission of the State Board of Charities, whenever they shall consider it for the best interest of any patient to remain in said infirmary.

"That at any time when it shall become necessary for the accommodation of recent cases of insanity (as provided by law) in any State Hospital, to remove chronic cases therefrom, all such chronic cases shall be sent to the care of the Northwestern Hospital for the insane, under such conditions as have heretofore existed with Commissioners of Lucas county, it being distinctly understood that only such chronic cases are intended as would otherwise go to the county infirmaries, and not these who can be cared for by their friends.

"That in order to carry out the intentions of this resolution, the superintendent of each hospital for the insane shall be required to

report to the Board of State Charities the total capacity of the hospital, including number of rooms for single patients, and the number in associated dormitories, at the ratio of one patient to each five hundred cubic feet of space, and also the quota of each county in the district to which said hospital is attached."

Now, Mr. President, I only read that to show that whether we are practically able to carry out our intentions or not, the State is pledged theoretically to do so, and that it will only remain to provide the means hereafter to keep on that course.

The Northwestern Institution was appointed under the stress of circumstances of the county of Lucas, after the destruction of her Hospitals by fire, to receive the patients of that county, and some other counties adjoining, forming a provisional district, and they are supported at the expense of the State. By means of the joint resolution this Institution will still be kept as a nucleus for this part of the State at some future time, because it so happens that that part of the State is without a suitable hospital, and whenever a new institution shall be required for Ohio it will probably be located there. I think, therefore, that there is cause for congratulation that we have carried out so much of the plans which we started upon a great many years ago, though while doing it we have always labored under the reproach of having accommodated our acute, our recent cases, at the expense of those who really demand our services a great deal more than any other class, the long continued, afflicted or chronic cases. We have not changed our law, and we have not changed our intentions, but have simply done the other things,—provided room for those hitherto unprovided for.

I have only one other remark to make and that is during the last meeting of the Legislature some occurrences took place which called the attention of the Legislature to the proper care of the insane convicts; a matter which requires great attention in our State, because unforutnately we have fifty or sixty insane convicts that are confined in our penitentiary, and in consequence do not receive the special care that is necessary for their condition. It so happens from my appointment in Columbus that I am charged to a certain extent with their care. That question was agitated before the Legislature, and a conflict of opinion exists. To gentlemen speaking upon this question I will feel very much obliged, especially those from Pennsylvania, if they will mention what has been done in their respective States upon this subject. I remember that Pennsylvania began; where she stopped I have not heard. I will be obliged if they will refer to it.

The PRESIDENT. What proportion of all your insane will you be able to accommodate at the opening of the Asylum at Columbus?

Dr. GUNDRY. We will have accommodations for nine hundred. There are between seven and eight hundred to be provided for at this time.

The PRESIDENT. So that Ohio will for the present have accommodations for the care of all its insane in regularly organized institutions?

Dr. GUNDRY. I think so, or with few exceptions. I suppose there will be a few exceptions everywhere, but there are some which will not be taken care of, but generally speaking all will be cared for.

The PRESIDENT. The Chair would like to second the request of Dr. Gundry that members in speaking upon this question would express the views they entertain in respect to the proper care of the criminal insane, especially in respect to the practical working of any particular mode of providing for them, with which they may be individually familiar. A deep and wide spread interest is now felt in this matter. When in Cincinnati, on my way to attend this meeting, in an interview with Mr. Shipley, Chairman of the Ohio Board of State Charities, he expressed a strong desire to learn the views of the Association upon this subject.

Dr. GUNDRY. The Governor of the State is Chairman of the Board.

The PRESIDENT. Then I think Mr. Shipley is chairman of a committee of that Board, to which the subject of providing for the criminal insane of the State of Ohio has been referred. At any rate, he informed me that his Board had directed its secretary to attend this meeting, particularly to confer with the members of the Association upon the subject now before it, but that he had been kept at home by sudden illness.

Dr. GUNDRY. One word. I estimate that the total accommodations will be for thirty-five hundred. Taking the ratio of one insane person to a thousand, you will see that this comes up to the proportion.

The PRESIDENT. The Chair will remind the Association that in 1873 the subject of the care of insane criminals was discussed, and that a couple of resolutions expressive of the views then entertained by this body were passed; and it may not be thought worth while to go into the subject at length at this time, unless a member present wishes to dissent from the resolutions.

Dr. GUNDRY. I simply ask that if there is any State carrying out the views of four years ago, or carrying out any other views, gen-

tlemen will mention it. I promised the Board of State Charities that in conversation or otherwise I would get what had been done.

The PRESIDENT. It seems exceedingly desirable to know just what has been done, and how the principles of the resolutions have worked in practice.

Dr. LANDFEAR. The report of Dr. Gundry has been so complete that it seems to me but little can be added. He spoke of the crowded condition of our Asylum as well as of the other institutions in the State, which we hope will soon be relieved in a measure. We are all gratified to know that Ohio is making so much of an advancement; and I think with Dr. Gundry that we will soon have accommodations for all the insane. In regard to the criminal insane I have nothing farther to advance, except that it seems to me wrong to place these insane with others in the different hospitals, where many of the patients seriously object to it. I believe that some provision ought to be made for them outside the penitentiary.

Dr. CHIPLEY. Mr. President, there has been little change since last year, when I had the pleasure to report for the Sanitarium. Since last year we have made some alterations in the building, admitting a better classification of the inmates. It is incorporated, is sometimes called a private Institution and numbers between forty and fifty inmates at this time, forty-seven I think. We have made such arrangements that there are eight classes, of course some of them very small. We have a larger number of attendants in proportion to the number of inmates, than is usual in such institutions. Except the classification, there has been no material change since last year. Being a private Institution we have no inmates except from the most intelligent and independent classes of society, who have the means of self-support.

The PRESIDENT. Do you take any sick except the insane, Doctor?

Dr. CHIPLEY. We take some that would not like to be called insane, who are brought to us under the character of nervous disorders, but in all cases some impairment of mind. When I took charge of the Institution some two years ago, one feature consisted of the inebriate element; perhaps a dozen were there at that time. As I had had little experience in that line, and very little confidence in the cure of inebriates in that way, I got rid of them simply by requiring these persons not to leave the grounds without permission, and to pack their trunks whenever they took liquor. The result is I have got rid of them altogether, and we have

received no new cases except those who came voluntarily. They are not intemperate, but come to be treated for the consequences of intemperance, and we try to restore them to health—health that has been destroyed by the use of liquor, opium, etc., and of this class the number is very small, I believe we have but two such cases now. All the rest have their minds impaired; indeed those two have impaired minds. But we do not receive any intemperate except those who have determined to abandon altogether their intemperance, and seek relief from the results of intoxication. The inebriate element is entirely excluded from the Institution, and it is purely for those whose minds have been impaired from different causes.

The PRESIDENT. Dr. Walker there are no representatives from Maine or New Hampshire at this meeting of the Association as yet; and the Association will, I am sure, be glad to receive any information through you that you may be able to communicate in respect to those States, as well as in respect to Massachusetts. Indeed I will include Vermont, which I think has no representative here.

Dr. WALKER. I can not even represent Massachusetts, much less all the New England States. In my own person I represent Boston simply, and have nothing to do with the State institutions.

The PRESIDENT. You are the senior member in the State of Massachusetts.

Dr. WALKER. So far as I have knowledge of neighboring States, Maine and Vermont are doing very well in the way of improvement and progress. Certainly this is so at Brattleboro where, under the lead of Dr. Draper, very remarkable progress has been made. In Maine Dr. Harlow is holding his own. The Hospital at Augusta never had so fully, as now, the confidence of the State. It never accommodated so many patients comfortably as it does to-day. The same is true of New Hampshire. The Concord Asylum is doing a good work there. It ranks as high as ever. Dr. Bancroft has returned from Europe in good health, and is doing all that is needed for the State of New Hampshire. In Massachusetts a great deal of money has been spent during the past three years. At Taunton they have increased the accommodations for patients about one-third. The class of accommodations thus added is of the very best; making out of that old and defective structure, an Institution very creditable to the State and to the gentleman who has the management of it. It has been overrun with patients. They have been obliged to make beds on the floor,

under the tables and almost in the entry-ways; but none but *good reports* come this way from Taunton. The numerous patients discharged from treatment or custody say nothing but good of the Institution and its management.

Three years ago the Legislature made an appropriation for the erection of a new hospital at Worcester, in place of the old one. This is nearly finished at an expense already of more than one million three hundred thousand dollars, and I believe that Dr. Eastman is now engaged in furnishing it, or some portion of it.

Dr. RODMAN, Kentucky. Was one million three hundred thousand dollars appropriated by the State, or does that amount include what was received from the sale of the old one?

Dr. WALKER. There has been no sale of the old Hospital estate at all. The new Hospital will be occupied early the coming fall, I believe.

Dr. RODMAN. When the old Hospital is abandoned of what practical use will it be?

Dr. WALKER. I will come to that directly. The Legislature also appropriated nine hundred thousand dollars for a hospital in the eastern part of the State, for the accommodation of Suffolk, Middlesex and Essex counties particularly. This was located at Danvers. The Institution is now nearly finished and will be occupied early next spring, probably before that. It has cost very much more than was intended at the outset, and will, I think, when completed and ready for the furniture, be found to have cost at least one million five hundred thousand dollars. When crowded it will accommodate five hundred patients.

Just before the adjournment of the last Legislature a bill was introduced with little discussion, and passed with no opposition, diverting the old hospital at Worcester, from sale and abandonment. The original intent of the Legislature was, I believe, to sell the buildings and the lands. In fact the Trustees were empowered to sell and to use the proceeds in the building of the new structure; but it was afterwards deemed unadvisable to sell at the present panic valuation of real estate. The Trustees accordingly fell back upon the State Treasury, and drew therefrom all moneys needed for the new Hospital. Just before adjournment the Legislature passed an act to retain the old building as a hospital, continuing it in the care of the same Board of Trustees, that now has charge of it and the new one; and to have it occupied by the chronic insane. Just where they draw the line of division I do not know. I doubt if anything definite has been determined in

relation to that question. Whether it will be a larger Tewksbury receptacle or not I do not know, can not conjecture. My impression is that it will be run as a first-class hospital, but used as a reservoir for the overflow from the other hospitals in the State, which, when full, may transfer for relief, both chronic and acute to the old Worcester Hospital.

The PRESIDENT. Will it have a separate superintendent?

Dr. WALKER. I think that has not been determined. That will be determined, probably, by the next Legislature. I very much doubt whether the two Institutions will be kept under one management. Possibly they will be under one Board of Trustees, but I doubt very much if one superintendent will have charge of both Hospitals.

The Trustees of the McLean Asylum not long since purchased an excellent farm a few miles from Boston, and even proceeded to have prepared partial plans for a new asylum structure, or structures. But after careful consideration the project was postponed to more propitious times.

What I have briefly recounted is a fair, if not full, report of what has been done in Massachusetts in this direction during the past three years. I know nothing personally (I am sorry and ashamed to say) of the Northampton Hospital. I know that no very great radical changes have been made during the past year. Dr. Earle is known to us all, as a most careful, but progressive manager; and it is generally understood, that he has accomplished a remarkable work at Northampton, and that he is now keeping that Hospital up to the highest point of excellence, of which it is capable; and that too in the face of obstacles that might well have disheartened and dismayed younger men of less experience. Dr. Earle has had remarkable success. The Northampton Hospital is a credit to Dr. Earle and an honor to the commonwealth of Massachusetts as a charitable Institution.

The PRESIDENT. What proportion of all the insane of Massachusetts will be accommodated when the hospitals at Worcester and Danvers are done, including the old one at Worcester for chronic insane?

Dr. WALKER. I think something more than three-fourths, I have not the papers and cannot tell decidedly about that. The hospital at Taunton will accommodate four hundred comfortably. The hospital at Danvers will accomodate five hundred crowded as it will be. The two hospitals at Worcester will accomodate nine hundred, and Dr. Earle's not less than four hundred. The recep-

tacle at Tewksbury has about three hundred, and I suppose will be retained even if the old hospital at Worcester is. The Boston Hospital is full with about two hundred patients. It was originally intended, about four years ago, when the Danvers hospital was completed, that the city should have the first occupation of it, to use such portion as we might require. It was believed that the old hospital at Boston would be abandoned. It is very doubtful whether that will be done. If it is postponed until after next winter it will not be done, as it will be too late, for the other will be full. Nothing new has been done in Boston, the best improvements having been made about four years ago. All we can do is to keep it where it is.

In regard to the criminal insane in Massachusetts after the law was passed granting power to erect two new hospitals in Massachusetts, a subsequent act was passed requiring the commissioners of those two hospitals to make ample provision for violent insane prisoners in the State. That term was used, or intended to apply, to what are known as insane criminals. Some three years ago a large appropriation was made for the building of a new State Prison. They are now putting up that institution. The chairman of the commission was formerly a member of the Board of Directors of the Boston Hospital for the Insane, one of my directors and a personal friend. I urged upon him the desirability of providing for that class of criminals in that institution. Without saying anything about it, or making any further disturbance, I understand that they have made provision in the State Prison for about thirty insane, inside the grounds I am sorry to say, connected with the main building too. It was thought unadvisable to attempt to separate the building even within the same enclosure. It is entirely separate from the convicts, and if I have the right idea of it, it will have on the whole, I may say, exceedingly comfortable accomodations. At present if any convict in the State Prison becomes insane, a commission consisting of two State Superintendents, the Superintendent of the Boston Hospital and the McLean Asylum, together with the prison physician, form a commission to determine in the first instance whether they are insane or not, and whether they shall go to a hospital. It has been our feeling for years to give every prisoner, no matter how violent and insane, the benefit of hospital accomodation, if possible to provide for him. Although superintendents are loth to receive, yet it must be said to their credit, I never knew one to refuse when they had to meet one from the commissioners. Here-

tofore they have been sent to the State hospitals. If they recovered before the expiration of the term for which they were sentenced, they were sent back. If they did not recover, unless very dangerous, they remained in the hospital until they did. In one or two instances they were remanded to prison for safe keeping.

The object of the provision in this prison is to prevent the necessity of taking a prisoner away, and in that way, rather indirectly than otherwise, familiarize authorities to keeping insane criminals within the enclosure of the State prison. In that way without any discussion whatever, the policy of the State will be determined that the insane criminals shall not hereafter be housed under the same roof with other insane people.

Dr. KEMPSTER. What facts have been elicited in regard to the killing of the attendant by a patient in the Northampton Hospital?

Dr. WALKER. None whatever, if I understand it right. The statement was this—that the man was on duty alone. He was the sole attendant of that ward, and while at dinner, I think it was, he must have been assaulted. He was found dead, with his throat cut and his person badly abused. All efforts to discover who among the patients had instigated it, or who assisted in the assault utterly failed, or had failed the last I heard about it. Dr. Earle stated that he had on several occasions supplied this attendant with assistant attendants, and that every time the attendant asked for the removal of the assistant, that he got along better himself. He therefore allowed him to have charge of that ward. But even if there had been two attendants, one or the other of them would have been left alone there at the hour this homicide occurred. I think it was at dinner or a meal hour.

The PRESIDENT. Why, doctor, would one attendant have been left at that hour alone with the patients?

Dr. WALKER. I did not ask why. I suppose it was because the attendants dined together and not with the patients, and if so one-half would go to dinner and leave the other half on duty. I recollect that Dr. Earle feels that there is no responsibility upon him whatever, in regard to this man's death. His remark was that if he had had an assistant, it would have occurred.

Dr. SAWYER, Rhode Island. There has been no legislation in regard to insanity in Rhode Island during the last year. The number of insane has probably increased. We have now in the Butler Hospital one hundred and sixty-five patients, and the State Asylum for incurables has two hundred and ten. There are about seventy-five insane in the State residing with their friends, or in the poor houses.

It is well known that the policy pursued by Rhode Island, in regard to the dependent insane, is to send them to a curative hospital till the probability of recovery is gone, then to transfer them to the State Asylum for incurables. This institution is located upon the State farm, and managed by a deputy superintendent. A physician visits the patients twice a week and oftener if called. They have no treatment for mental disease. Theoretically only incurables are sent to the State Asylum, but it occasionally happens that a person who has been insane and has recovered, is sent there in a second or third attack and recovers, or that one is transferred from another institution too early. The insane criminals of Rhode Island have been sent to hospitals as other insane are. We have had two or three in the Butler Hospital, but all have now been transferred to the Asylum for Incurables. There is now one insane man in the Rhode Island State prison, who was committed there many years ago for murder on the high seas. The managers of the prison have repeatedly sought to have him removed to some hospital. The Butler Hospital being full, various institutions out of the State have been applied to but none have been found willing to admit him. I was called to examine him for the purpose of his removal to the State Asylum, but he showed so much cunning and inclination to violence and so little moral sense that it seemed certain he would break out of that institution, and I therefore advised his being retained in the prison, till some more suitable place be found.

As to Connecticut, I only know that the Hospital at Middletown is quite crowded. I have frequent application for the admission of patients from that State.

On motion the Association adjourned to 3 P. M.

The Association was called to order at 3 P. M. by the President and resumed the consideration of the care and provision for the insane.

Dr. J. B. CHAPIN. There are in the State of New York at the present time six State Asylums or Hospitals, completed or in the course of construction. The present capacity of these institutions is about twenty-five hundred. The estimated number of the insane in the State deduced from a careful census made in the year 1872, was six thousand seven hundred and ten. There are perhaps seven thousand insane persons in the State at the present

time. When the present asylums are completed their capacity will be about three thousand five hundred. At the present time the insane not in the State Asylums, are cared for in municipal institutions, or in the county almshouses. The Legislature last year made small appropriations for completing institutions now in the course of construction. No changes were made in the law regarding the commitment or care of the insane. It is a fact that is pushing itself upon our attention, that, while our asylums are very much crowded, the number of the dependent insane is rapidly increasing. Certainly within the past fifteen years the number has doubled. Dr. MacDonald is at present with us; he is from the asylum at Auburn, and I think we may profitably hear from him relative to the criminal insane.

Dr. C. F. MacDonald. The Institution at Auburn, which I represent, has now about one hundred patients, and with the exception of an occasional escape, everything has been going on smoothly for some time past. Since my last report to the Association a great many repairs and improvements have been made, the discipline has been raised to a higher standard, the patients almost without exception have improved in physical health and general demeanor, and during the past ten months there has not been a single death. This I attribute largely to a liberal diet and the improved sanitary condition of the building.

One very important change has occurred since our last meeting. By the adoption of a constitutional amendment submitted to the people of New York at the late general election, the board of inspectors of State Prisons was abolished, and the office of Superintendent of State Prisons (to be filled by appointment emanating from the Governor) created instead, the object being to place the entire department beyond political partisanship. The Governor appointed to the new office Mr. Pillsbury, the experienced and able superintendent of the model Penitentiary at Albany. Under the new system, although but a few months in operation, there has been a complete revolution in the management of the whole department; party influences in the appointment and discharge of officials have entirely disappeared, and new employès are elected with special regard to their qualifications and fitness for the places they are to occupy; and each one is given to understand that his retention in the service depends upon the faithful and proper discharge of his duties. The wardens of the several prisons and the Superintendent of the Asylum have plenary power in conducting their institutions, and very properly are held

accountable for the management and condition of the same. This change can not be otherwise than beneficial to the Asylum, and yet looking to the future of the Institution I am not sure but that it would be better to place it on an equal footing with the other asylums of the State, and to similarly organize it. As Dr. Gundry has called for an expression of the views of members of the Association upon the subject of the care and custody of the "criminal insane," a word upon that point may not be out of place at this time.

Having been connected with an ordinary hospital for the insane for several years I am perhaps better prepared than some of my brethren to make a comparison between the conduct, mental manifestations, and methods required in the management of the two classes; although as yet my experience in the care and treatment of insane criminals has not been sufficiently extended to warrant me in expressing an opinion that may be accepted as authoritative. But the short experience already had is sufficient to convince me that the opinion expressed by this Association in one of its resolutions, that the criminal insane should be provided for in institutions by themselves, is an eminently wise and proper one. The vice and depravity with which many criminals are filled are not at all, or rarely, neutralized by the admixture of mental disease. In the Asylum at Auburn there are both convicted and unconvicted patients, and I have observed that the former generally exercise an injurious influence upon the latter, although both are classed as criminals. Insane convicts are often adepts in picking locks, cutting bolts and bars, and devising other means of escape, sometimes even conspiring together for that purpose. On searching patients when they come from the prisons it is not rare to find steel saws made out of watch springs, and knives and other implements concealed about their persons for the purpose of effecting an escape. A hospital for the *convict* insane must necessarily partake somewhat of the character of a prison in its *custodial capacity*, but it need never become a primitive establishment. I constantly endeavor to impart to my Institution the tone and appearance of a hospital.

Insane convicts, as a rule, require constant surveillance, and must be denied many of the privileges that are extended to the inmates of our ordinary asylums. I went to Auburn with what might be termed radical or "Scotch" views respecting the degree of personal liberty that should enter into the treatment of the insane; but I soon found that I must either modify my practice in

this regard, or devote a major portion of my time to the pursuit of elopers, not to mention the liability to accidents. There have been some mistakes made, I think, in the location, construction, organization and management of the Asylum at Auburn. In the first place, it is in the immediate vicinity of a large prison, and the people of the city generally speak of the Institution as the "Convict Asylum," or "Prison Asylum," terms which are very odious to the *unconvicted* patients; secondly, it is surrounded by railroads and factories that disturb the quietude of the house both night and day; thirdly, there is no farm, and scarcely a garden attached to it, a lack which prevents, to a large extent, the utilization of the labor of its inmates. Convicts not infrequently feign insanity, with a view to obtaining the diet and privileges of the Institution, or with the hope that they may find an opportunity to escape. Some cases that have been successfully treated and returned to prison seem to think that the fact of their having been in the Asylum relieves them from all responsibility, and, consequently, they are very reckless in their actions. Even in the Asylum the idea of irresponsibility prevails to a certain extent, and I have experienced great difficulty in impressing patients with a sense of their responsibility. They boast that they can destroy life and property without incurring punishment, because they are in, or have been in a lunatic asylum.

Another source of embarrassment is the disposition of a certain class of *unconvicted* patients—persons who have committed murder, and have either been acquitted or not tried on the ground of insanity. The particular class to which I refer is made up of individuals whose mental disease is due largely to intemperance and its usual concomitants. The disease in these cases frequently subsides under the regularity and quiet of asylum life, and patients soon become rational and apparently sane, and in the course of two or three years they begin to feel that they have paid the penalty of their offense; they chafe under confinement, complain of being restrained of their liberty and clamor for release. The responsibility involved in the liberation of such cases is very grave, and one that courts are loth to assume, especially in view of the strong probability that, if let out, they would return to their former habits and associations, and experience a return of the malady that would render their condition as bad, or even worse than it was before.

Dr. CURWEN. All I can say for New Jersey is that from the last accounts I have they are all doing very well. The new Insti-

tution at Morris Plains, as the gentlemen very well know, received its first patients upon the tenth of last August. They have now over four hundred.

The Asylum at Trenton is doing very well with about five hundred. A division of the State of New Jersey into districts was made last year by authority of the Legislature, and each institution has a number of counties assigned to it, the Institution at Morris Plains taking the northern half of the State, and that at Trenton the southern half or very nearly the old geographical division of east and west Jersey.

As to Pennsylvania we are pursuing the even tenor of our way. After various efforts to make the improvements at the Hospital at Harrisburg, which have been desired for a long time, I am happy to say they are now going forward so that the Institution will be in a much better and more cheerful condition than heretofore. The Hospital is crowded with patients, but in other respects things are moving on satisfactorily. Appropriations were made by the last Legislature to the Hospital at Danville, to enable them to put up the two additional blocks to the south wing to complete the original design, and the necessary work connected with these additions is the reason why Dr. Schultz is not able to attend this meeting. The Hospital has a large number of patients and everything is going on well. The Hospital at Warren is progressing slowly and steadily; slowly, because the appropriations made by the Legislature are small, only enabling the Commissioners to do a limited amount of work in the season. A large portion of the wings will be put under roof this year leaving the other portions to be erected when the necessary appropriations are made.

At the session of the Legislature two years since initiatory measures were taken for a hospital for the seven south-eastern counties of the State, including Philadelphia. A commission, as provided in the bill, was appointed by the Governor last December, and in the course of last month they made a selection of a site within twenty miles of Philadelphia. To that location strong objection has been made, and the whole matter is now in the hands of the Governor for approval or rejection, as the law requires his approval of the site before its purchase, and also that the cost of the location shall be approved by the Board of Public Charities.

In relation to the institutions in Philadelphia, I may simply say that the Pennsylvania Hospital for the Insane is doing its work, as usual, quietly, efficiently and very satisfactorily. The Insane Department of the Philadelphia Almshouse is greatly overcrowded

having at the last report eleven hundred and fifty, when it should have only about five hundred.

Several years ago when the subject of proper provision for insane criminals was before the Association and agitated, first in Pennsylvania and then brought from Pennsylvania into the Association, the resolutions adopted by the Association at that time were acted upon to a certain extent, by a commission appointed by the Legislature consisting of three members of the Board of Public Charities, three of the Superintendents of Hospitals for the Insane, and one other person whose name was inserted during the passage of the resolution through the Legislature. That commission, after several meetings, unanimously reported in favor of an institution, separate and distinct from any other institution, not within one hundred miles of either of the existing hospitals, to be constructed expressly for insane criminals. That report was printed, together with a plan of the building designed, and distributed to the members of the Association at that time. That report with a bill for the establishment of an institution of the kind recommended was placed in the hands of the members of the Legislature, but thus far financial reasons have prevented any action being taken to secure its erection. The matter, however, will be pressed when the proper time arrives. After the lapse of several years I can not remember exactly what the report was in its details, but I will be glad to place copies in the hands of the gentlemen from Ohio for their examination. After careful examination of other institutions, and the facts and figures given by those who were most conversant, practically, with the subject, the plan of the building was drawn so as to give accommodation to the class designed in the proportion of one female to every five males, that is, the accommodation required for men would be five times that for women.

As Dr. Reed is not in the room I may state that the Hospital under his care continues much crowded, and with that exception they are moving on comfortably. The Legislature has been accustomed to make an appropriation each year for support of that Hospital. By a provision of our new constitution, the appropriation for all institutions strictly under the control of the State, can be passed by a majority vote, but when an institution is not strictly under State control, a two-thirds vote is required. Owing to a difference on political matters towards the close of the session last winter one party rigidly insisted on this, and the appropriation for several institutions, the Hospital under the charge of Dr. Reed being included, was lost, so that they will suffer temporary embarrassments during the year from this cause.

Dr. Black, Virginia. Mr. President, I do not know that I have anything of special interest to report from Virginia. I regret exceedingly that Dr. Baldwin and Dr. Barksdale are not here to represent the institutions of which they have charge. As to the institution of which I have charge, notwithstanding the trouble we labor under on account of the loss by fire, we are getting along successfully. We are now engaged in building. The Institution at Staunton, over which Dr. Baldwin presides, is getting along very well indeed. He is maintaining the reputation that the Institution had under his distinguished predecessor, Dr. Stribling.

There is an asylum at Richmond for the colored insane, well conducted by Dr. Barksdale. The policy of the State is to enlarge the Eastern and Western Asylums, so as to accommodate all the white insane, and to build a new asylum for the colored people. Appropriations have already been made by which to enlarge the Eastern and Western Asylums so as to accommodate one hundred more patients in each ward at present, which will be sufficient for those now outside of the asylums.

Last winter the Legislature made an appropriation for building an asylum at Petersburg, for the accommodation of the colored insane, the buildings now occupied being rented. The Legislature will endeavor to make provision to accommodate all its colored insane, by the time the lease expires, which will be in three years.

Dr. Camden, West Virginia. Mr. President, I have very little to report this year, except we are very much crowded, and the Hospital is filled to its utmost capacity. We have now about four hundred and twenty-four in the Hospital, fifteen of whom are colored, and these are all of that class in the State. We have, within the last year, built a colored hospital, an engine house, smoke and ventilating stack, &c., and although we are at a standstill now, I am safe in saying that there is a prospect of getting an appropriation for further construction, at the next session of the Legislature.

Dr. Grissom, North Carolina. Mr. President, whatever may be of interest in regard to the increase of accommodations for the insane in North Carolina, may be expressed, I regret to say, in a very few words. During the past year, however, the Institution at Raleigh has been considerably improved, with a view to an increase of comfort for patients and employès, and greater security from danger by fire. The kitchen and laundry have been completely rebuilt, except exterior walls; and the entire refitting has given most satisfactory results. The boiler-house, always a source

of anxiety by reason of the inflammable material of the original structure, has also been rebuilt and made fire-proof, so far as we had means at command. The waterworks have hitherto furnished us a barely sufficient quantity of water for our daily needs. They are now being completely remodeled, and will hereafter afford an ample supply.

The new Institution at Morganton is slowly progressing. The first appropriation was $75,000. Our people are poorly prepared to meet additional taxation, and the annual appropriation for the continuation of the work is only $30,000. A fine site has been selected, and about three millions of brick laid in the structure. The water supply is abundant and excellent, but secured at considerable expense, as it is brought nearly five miles through a six-inch iron main, from the mountains. It reaches the building with one hundred and seventy feet of head, and will fully secure it from danger by fire. With the small annual appropriation the progress of the work must be slow.

The Institution at Raleigh is overcrowded, with four hundred applications on file, of cases that ought to be under treatment to-day. The prospect, you will see, is not flattering. I am sorry to say that I can not give you any accurate information in regard to our sister State of South Carolina. I trust, however, that the same embarrassments do not continue under which Dr. Ensor labored for a long period. His difficulties have been very uncommon in character, perhaps unprecedented in the history of the Association. He has suffered almost intolerable personal burdens, but has maintained the work of the Institution through them all. I have reason to think that the condition of South Carolina in regard to her insane is improving on account of the greater quiet in the public affairs that now prevails.

Dr. COMPTON, Mississippi. I regret that I am unable to give you any definite account of the condition of the insane in Alabama, and still more that the able Superintendent of the Asylum in that State is not here to speak for himself. In the character of Dr. Bryce we have every assurance that the Institution over which he presides is in a good condition, but I can not speak of the insane of the State who are not under his care. I observe with pleasure that his professional brethren have recently honored him by electing him to the Presidency of the Alabama State Medical Association.

Nor have I any formal report to make from my own State. In general terms I may say that we are doing tolerably well. We

have a new wing now in process of construction, which will be completed in August, when I think we will be able to admit all applicants. The number now in the Asylum is three hundred and fifty. The new wing will accommodate about seventy-five more. This will give us four hundred and twenty-five in a population of eight hundred and fifty thousand, or one to every two thousand. During the past year nothing has occurred in our Institution worthy of note. In regard to the criminal insane in our State we have never had enough of that class to make the subject one of importance. We have only four or five in our Asylum, not enough to justify separate provision. It is well enough to bear in mind that there are two classes under that head; one is the individual who becomes insane after having committed a crime, and has been sent to prison; the other who violates the law while already insane, and is sent to the asylum upon a verdict of insanity. It will be perceived that these classes are very distinct. Perhaps it would be well to separate both these classes from the ordinary insane and from each other; but in small States like the one I represent, where the number of insane criminals is few, the expense of making separate provision for them can hardly be expected or justified.

Dr. Wallace, Texas. I know nothing in regard to the insane of Louisiana more than, I presume, is known to all of you. I received a copy of the report for the past year, the only one that has come to my address since I have been connected with the specialty. Of the State of Arkansas, what she has done, or proposes to do in regard to the care of her insane, I know nothing directly, but have learned incidentally that the purpose entertained by some of her most enterprising citizens, of establishing an asylum, the incipient steps of which were taken a year or two since, is not likely to meet with a very speedy realization. I regret to have to say that while Texas is progressing, at least Texans themselves being judges, in much that pertains to her material advancement and prosperity, institutions for higher education, protecting her frontier from savage Indians and more savage Mexicans more effectually than heretofore, establishing police regulations, securing internal peace and quiet, and what is more significant in this connection, while hundreds of thousands of immigrants are pouring into the State, spreading over her extended prairies and rich bottoms, developing the resources of the State, doubling her population every few years, with, of course, a corresponding number of insane; I say, while all this is true, there is nothing to report in the shape of additional accommodations for this unfortunate class.

Our State, in common with other Southern States, and perhaps Northern ones also, a year or two ago, alarmed at her increasing debt, took a spasm of economy, and, naturally enough, went to the other extreme. You may talk of grangerism or any other ism you have a mind to, but a reaction was inevitable. We had been indulging in unusual expenditures, and nothing is more in accordance with human experience than that there should be a corresponding reaction. Appreciating the situation I made no special effort with our Legislature. True, I represented to them what was necessary in regard to the care of the insane of the State. They determined to appropriate no more money than was provided for by taxation, while there seemed to be a general desire on the part of the Legislature to give us additional accommodations. The feeling was, there is so much for common-schools, so much for frontier protection, so much for the judiciary, so much for administering the State government, leaving only so much for State charities. There seems to be a very healthy condition of feeling upon this subject in Texas, and I have no doubt that steps will be taken by the next Legislature to make ample provision for the insane of the State. I have the assurance of leading men of the State to this effect. You are aware that the accommodations at present are not adequate to our wants. We still manage, however, as heretofore, to admit all recent cases, as well as those unmanageable outside by ordinary means of restraint. To do this we send out cases no better, perhaps, than those many of you admit. No accident, however, has occurred from this course, but, on the contrary, several recoveries that, in my judgment, never would have been realized under hospital restraint. At the close of the fiscal year, September 1, 1876, there were in the Institution two hundred patients; admitted during first three-quarters of the present year, one hundred; there are remaining at the end of the third quarter, two hundred and thirty-two. This will give some idea of the rapid change of the population. From best information to be had I estimate the insane of the State requiring hospital protection from eight hundred to one thousand, a small number for a population estimated, as ours is, at two millions.

Dr. RODMAN, Kentucky. I am sorry to say, Mr. President, that Tennessee is not represented in this meeting, by reason of the sudden summons of Dr. Callendar to the bedside of a dying member of his family. I regret Dr. Callender's absence for the reason that I am not sufficiently familiar with recent important events in his State, to give the Association an accurate report of them.

Most of those present will, perhaps, remember that the Legislature of Tennessee, four or five years ago, made appropriations from the public treasury for the purchase of suitable sites for, and to commence the building of two first-class hospitals for the insane, one for the eastern and the other for the western division of the State. Commissioners appointed by the Governor for that purpose bought a suitable property near Knoxville for one of these asylums, but failed to fix upon a location for the other for some reason that I do not now remember. A Superintendent, Dr. Boyd, was chosen for the Eastern Hospital, plans approved and work begun. Before such was done the Legislature met, and notwithstanding the most intelligent and industrious efforts upon the part of those interested, notably Dr. Jones, one of our fellows, at that time a member of the Tennessee Senate, to prevent it, the original bill of appropriation was repealed and so the matter stands at present. Within a few years large additions have been made to the Tennessee Hospital for the Insane. The Asylum now accommodates four or five hundred inmates, under the Superintendency of Dr. Callender. It is accomplishing a work of the highest character. Its records for years past are, I believe, fully up to the high standard established by Cheatham and his successor Jones, who made it one of the best hospitals in the South.

In regard to our own State I think I am entitled to indulge in a little proper pride. The course of Kentucky has been, in some degree, in contrast with that of Tennessee. Far more liberal provision for the insane has been made in Kentucky than in any other State south of the Ohio, indeed I think that few States in the Union have done as much as ours in affording maintenance for the insane in well-appointed hospitals. Approximately we have fourteen hundred insane in Kentucky. In her asylums there are probably to-day over thirteen hundred patients; five hundred and fifty at the Eastern, three hundred and sixty at the Western, and four hundred and twenty at the Central. Whilst all is not done, it maybe, that could be desired, still I feel as if Kentucky is entitled to a high place on the roll of States, which have done well in the cause of humanity. Three well-equipped Lunatic Asylums, with schools of a very high order for the idiots, for the deaf mutes and for the blind, should make good her claim to this distinction.

Dr. Everts, Indiana. I know nothing personally in respect to Michigan, except that they are building an asylum in Pontiac. I have seen a photograph of it and think it is a very handsome building.

So far as Indianapolis is concerned the old Hospital is in as good a sanitary condition as it can be without radical architectural changes. We have spent three hundred thousand dollars on the additional hospital, the apartment for women. It is rapidly being put under roof now and we have an appropriation of three hundred thousand more, which will nearly finish it. Beyond that we have no change of interest in any direction that I know of.

The PRESIDENT. Does the Chair understand you that you are building a separate Institution for females?

Dr. EVERTS. Yes, sir.

The PRESIDENT. And intend to devote the old building entirely to males?

Dr. EVERTS. The law requires that when the new building is done it shall be a department for females and no males; and the old Hospital for men and no women. The building is on the same grounds and under the same management. Our capacity for sometime has been six hundred and ten. The new building will hold six hundred easily and when crowded seven hundred. When filled we will then have over thirteen hundred patients. It will relieve the pressure in the State for many years, although it will not accommodate all the insane. Our applications now are just about double the number received. Our new building will accommodate about all the new applications. The rest that come in will increase the number.

The PRESIDENT. The Chair regards that scheme for caring for the insane as a very important one, and feared that all the members of the Association might not understand your first allusion to it.

Dr. KILBOURNE, Illinois. Any public feeling and sentiment in the State of Illinois towards the specialty in which I am engaged, has been gradually and steadily in the direction of making full and ample provision for the care of all the insane within our borders. During the latter part of the last decade or the beginning of this, the State of Illinois made provision for the erection of two hospitals for the insane, one in the northern and one in the southern portion of the State as has been previously noticed. The one at Anna is about being completed. When completed, with the Institution at Jacksonville and that at Elgin, the accommodation will be for about fifteen hundred insane. The capacity of the Cook county Institution at Jefferson is about three hundred, which with the number in the private institutions will swell the total to about eighteen hundred and fifty accommodated by the first of July.

During the session of our General Assembly last winter, the question was again agitated of making still further provision. Appropriations were made of two hundred thousand dollars to the Eastern Hospital and seventy-five thousand dollars to the Central Hospital. When the Eastern Institution is completed it will probably accommodate five or six hundred. That at Jacksonville will probably accommodate one hundred and fifty more, so that we will have accommodations, when all are completed, for about two thousand. There are about three thousand insane. I am sure the most needy of that number will be accommodated. I think Illinois is doing as well as her sisters.

The PRESIDENT. The Chair will take this occasion to remark that, in its opinion, the observations of members should be limited to existing provision for the insane, to the progress made in the course of the year in obtaining such additional accommodations as may be needed, and to the number of the insane in a state requiring the care of public institutions, together with the presentation of any cardinal principle or principles relating to the treatment of the insane, without going into the details of construction or management, which must be, to some extent, peculiar to each institution. The Association and the intelligent community will take it for granted that if additional provision is made for a hundred patients, it is a good one unless evidence is presented to the contrary.

Dr. BARNES, Illinois. Since Dr. Kilbourne has given all that is of interest, I will only add that we are progressing with the south wing and perhaps will be able to occupy it within the next few days. When the wing is completed we will have accommodations for two hundred and fifty more patients than now. We are moving on in our usual way.

Dr. KILBOURNE. Rev. F. H. Wines, Secretary of the Board of State Charities of Illinois, is present, and is thoroughly conversant with his work.

Rev. FRED. H. WINES. There is very little to be added to what has been said by our Superintendents. The State of Illinois is not an illiberal State, I think. The amount appropriated by the last General Assembly for the support of our charitable institutions for the next two years aggregate one million, five hundred thousand dollars. This is a large item, although when we consider the population of our State and the extent of its resources it is not so large as it at first seems. We have a population of about three millions, and an appropriation of one million five hundred thousand

dollars is equivalent to a contribution of about twenty-five cents a year from every person in the State for two years. As Dr. Kilbourne has said, we have two insane hospitals completed, at Jacksonville and at Elgin, and one in the course of completion at Anna. The Legislature has provided for four hundred and fifty additional patients by additions to the present hospitals, and the new Eastern Insane Hospital will give accommodation, probably, to four hundred and fifty more, so that by the time that Institution is completed we can care for nearly double our present number. In regard to the Eastern Hospital I wish to say that the Legislature appointed a special committee to report on the necessity for additional provision for the insane of the State, and that committee made a report which carried the measure. In their report they reopened the much vexed question of the adoption of the cottage, or village system of caring for the insane. They said: "We hope that the Trustees may be able to ascertain and demonstrate the feasibility of a reform in the mode of construction, by the adoption of the village plan of construction, with detached buildings erected at less expense, and affording a greater measure of comfort to the inmates." I have had a good deal of experience for eight years past in the visitation of State institutions, in laboring with Legislatures and with committees, and in visiting county jails and almshouses, and am well informed as to the sentiment of the State of Illinois; and there is no doubt that the people feel that the appropriations for their institutions are becoming rather an onerous tax upon them. They complain a good deal of the cost of the insane hospitals. Our hospitals at Elgin and at Anna cost each of them nearly or quite seven hundred and fifty thousand dollars for lands, building and furniture, which is equal to a cost of about fifteen hundred dollars for each patient provided for. The appropriations for the current support of our three hospitals will aggregate about one hundred thousand dollars each per annum, besides special appropriations; and the people feel that they are expensive to build and expensive to maintain. Their thoughts are running much on the question of cheapening the cost of taking care of the insane. We have not less than thirty-five hundred insane in our State to-day. When these four hospitals are equipped and running not more than two-thirds of our insane will be taken care of. There is already talk of erecting another hospital in the northwestern part of the State. But to provide for thirty-five hundred insane, at an initial cost of fifteen hundred dollars for each patient, would involve an outlay of five millions two hundred and fifty

thousand dollars for this single object, and the people do not feel like standing it unless it is unavoidable. They will, of course, do cheerfully whatever has to be done; but they think that some measures ought to be taken to reduce this cost, if possible. I bring the matter up here for the purpose of eliciting a discussion by the Association on the cottage system, as that system will be pressed upon the Trustees for adoption.

With regard to the criminal insane there are many objections to their association with other patients; but our people have never come to the conclusion that it would pay to have a separate hospital for their benefit, because the number in Illinois is not large enough to justify the expense of such an institution.

We have passed through an investigation of the Elgin Hospital during the past year. A patient was unfortunately wounded by an attendant, and subsequently died, either from his wounds or from his disease, or from the medication employed, or from all three, and an investigation was desired by his friends. This was accordingly held by the State Board of Charities, and I am glad to say that the report of the Board completely exonerated Dr. Kilbourne, the Superintendent, from censure. The Board thought that the responsibility was attributable, if anywhere, to the attendant, who was dismissed, and the management was completely vindicated.

The PRESIDENT. Was the attendant indicted?

Mr. WINES. No, sir. The proof against him was not sufficient to warrant an indictment. He had a scuffle with the patient; broke his leg; and in twelve hours the patient was dead. No one witnessed the altercation except the patients in the ward, who could not give a connected account of it.

The PRESIDENT. The Chair will inform the Association that there is a paper present prepared by Dr. Ray, treating of the cost of institutions for the insane, and suggests that, the discussion be postponed until that paper has been read.

Dr. KEMPSTER, Wisconsin. We have been moving along very smoothly in Wisconsin since the last meeting of this Association. There is a very healthy feeling in our State towards the eleemosynary institutions, and as an index of that fact, I might state that a provisionary bill was introduced at the last session of the Legislature looking toward the erection of an additional institution for the accommodation of the insane now unprovided for in the State.

There are in the two Hospitals now in the State an aggregate of nine hundred patients, perhaps a few more, leaving to be provided

for about four hundred. With reference to the criminal insane the majority are kept in prison. There are a few in the Institution I represent and I believe there are some in the Institution at Mendota. An important question is being agitated just now, that is, what disposition shall be made of the so called criminal insane? I am under the impression that the general feeling is, that suitable provision should be made in perhaps both Institutions, by constructing separate wards for their care. This class of the insane is with me a turbulent element and I do not feel that there is one of them who could be trusted as we trust other patients; some of them have made deadly attempts from time to time upon those by whom they are surrounded, patients and attendants.

I reported to this Association one year ago, the case of a woman who called at the house of one of the prominent physicians of the city of Milwaukee, rang the bell, and upon the physician answering the call, shot him down. The case is somewhat peculiar and has awakened considerable interest in this class of insane in our State. The woman was put upon trial and the jury found her guilty of murder. The judge remanded her to prison for sentence. In the meantime the same judge appointed a committee of two physicians to examine the woman with reference to her insanity. One of these physicians had testified upon the trial as to her insanity. The physicians certified that she was insane, and she was ordered to the Hospital at Oshkosh. While there she manifested the most undoubted evidences of insanity. She was not properly committed, however, and by direction of the Board of Trustees of our Hospital, she was returned to Milwaukee. She is homicidal and would take the life of a person if allowed. This case has given rise to considerable discussion of the subject of the care of the criminal insane, and the outcome I fear will be, as I have stated just now, the construction, at one or other of our Institutions and perhaps both, of a separate wing or building for the care of insane who have been convicted of breaches of law while insane. There are some in the State who would prefer the construction of suitable accommodations for this class at the State Prison, myself among the number; but the feeling is, I think, pretty generally settled that a building or ward should be connected with one or other of the State Hospitals for the care of this class. There is a very healthy public sentiment towards the State Hospitals. We have had no financial difficulties, no special trouble in securing appropriations. Each of the Institutions secured what was necessary for the care of the insane, and both of the Hospitals, so far as I am acquainted with their details, are flourishing.

Dr. BOUGHTON, Wisconsin. I have nothing of special interest to offer. During the last year or two it has been evident that in the matter of increased accommodations for the insane, the sentiment of the State of Wisconsin has pointed towards the erection of special cheap buildings for the chronic insane. If this is carried out it will interfere with the needed enlargement of the Institution at Madison. Our building is yet incomplete, the number of wards being too few for proper classification. The question was before our Legislature last winter, and probably the main cause why action was not taken, was because of local jealousies in different sections of the State. In regard to the criminal insane it may be interesting to know that the whole number of convicts in our penitentiary does not generally exceed two hundred and seventy-five, which is an exceedingly small number for a State of our population; so of course the number of insane criminals is very small. I am not aware that the Doctor speaks advisedly in regard to separate wards for the criminal insane at Madison. I think any such plan is unknown to our Board of Trustees, and therefore, has never been brought up. I should consider a separate ward for criminals a source of great annoyance and should advise strongly against it. We have in our Institution three or four criminals, but one of them has, however, been convicted and was first sent to the penitentiary; the others were saved from conviction on the ground of insanity.

Dr. CATLETT, Missouri. I have but little, sir, to say in relation to my Institution. I think it is fulfilling its mission to the satisfaction of all the citizens of the State who know anything of its management. The citizens of Missouri, I think, are disposed to be liberal to all the institutions of the State, and take care of all the insane that require it. We have nearly, if not entirely, sufficient accommodations for all the insane in the State, so far as I know. The State has annually appropriated twenty to twenty-five thousand dollars to the St. Louis Asylum, although it is not a State institution. Unfortunately, the appropriation made by the last General Assembly for this Institution was vetoed by the Governor on account of legal reasons.

As to the criminal insane the two State institutions have been relieved of the burden of taking care of them by the establishment of a very good hospital in the Penitentiary. We have in the State of Missouri about fourteen hundred criminals, and there are now in the Penitentiary four insane criminals. I speak of the Hospital as a good one, because I have examined it within the last day or two. So our institutions are relieved from the necessity of

taking care of them. The question of the care of the criminal insane will not come up in this State, on account of the provision made. Dr. Hinde, of Fulton, and Dr. Howard, of the St. Louis Asylum, are present, and can report for their institutions.

Dr. HINDE, Missouri. Mr. President, I am sure you will excuse my hesitancy in representing our State Asylum at Fulton, in the absence of our Superintendent, Dr. Smith. His letter to the Association will furnish satisfactory reasons for his absence from this meeting, at which it was especially desirable that he should be present, being the first held in Missouri, and he being one of the oldest members. My embarrassment is somewhat relieved, however, by the presence of Drs. Catlett, Howard, Bauduy, Stevens, Hazard, and Hughes, representing the specialty in our State. We have nothing new to report from Fulton. We stand about as reported a year ago. We keep filled to our utmost capacity. We had yesterday three hundred and sixty-nine patients, which is beyond the proper capacity of the building. The Institution, in all its appliances, is in better condition now, I think, than at any time in its past history. We are very nearly out of debt, and have liberal appropriations for running the next two years. We have a special appropriation for ground improvement, library, and amusements. We have a landscape gardener now employed, and expect greatly to improve our grounds this season. We have four insane criminals, two of whom are dangerous and require close watching. I think Dr. Catlett is mistaken in regard to any special provision having been made for them at Jefferson City. I have stated that the Legislature has been liberal toward us, and I can heartily sympathize with the Superintendent of the St. Louis Asylum, Dr. Howard, in view of the Governor's veto of the bill making an appropriation to that Asylum, thus leaving them without assistance from the State. We recognize the justness of the claim that St. Louis county is entitled to a fair representation in our State asylums, and we will accommodate them at Fulton to the extent of our ability.

Dr. STEVENS, Missouri. I would refrain from making any statement in relation to our County Insane Asylum. I know that many of my friends and acquaintances have come here with the impression that I am now its Superintendent. My recent appointment was only a temporary one. I supposed that Dr. Howard would be ready to make some report and sincerely hoped he would do so. Dr. Hinde alluded to certain financial matters, the fact of the Asylum not having the support of the State. It would

appear at first view as though an Institution like this, should be sustained and supported by the wealthy and populous county owning it. Heretofore or for several years, St. Louis county has claimed from the State an annual appropriation in return for a large amount of money derived from our county in support of the State asylums. St. Louis county pays by the general assessment, over fifty per cent. of the State revenue. This year the Legislature refused the appropriation. In consequence of this the Institution has had to suffer.

Dr. HOWARD, Missouri. It is with regret, Mr. President, that I have to state that the Institution under my charge is not in a favorable condition for inspection by the members of this Association. Many causes have conduced to this disagreeable state of affairs, the chief one being the fact that for several months we were in a condition very much resembling anarchy. There was a conflict between the city and county for the possession of the building; an armed mob collected around the house, and for several days it was protected by a corps of policemen. This force was soon withdrawn by the Mayor of the city to avert bloodshed, and the Asylum was surrendered to the county authorities pending the decision of the courts. The Superintendent appointed by the County Court was temporarily installed, but I continued under an agreement between the authorities to occupy my apartments. A decision was finally rendered in favor of the city, and the Institution, after much useless resistance and many unnecessary delays, was turned over to the Mayor and I was reinstated.

During this period of confusion which lasted nearly three months, the Asylum was not properly provided with supplies and, in consequence, its condition rapidly deteriorated. On taking charge, about five weeks ago, I discovered a most unsatisfactory state of affairs; the place was sadly in need of cleaning, many of the patients were extremely debilitated, clothing of all kinds was badly needed and scurvy had broken out. The general demoralization had affected the attendants, the best of whom had been discharged for doing their duty, and altogether the general outlook was gloomy in the extreme. The city authorities have, however, with a most commendable liberality provided the necessary funds, and I have done all in my power to bring the Institution up to a proper standard. I hope the gentlemen of the Association will be charitable in their judgments.

Dr. BUCKE, Ontario. I am very sorry, Mr. President, that neither of the two older Superintendents from Ontario are present,

they would have been able to speak upon the subject much better and more fully than myself. You know that I have not been long engaged in the specialty. Dr. Clarke is on the way and I thought he would have been here before this time. Dr. Dickson, I believe, will not attend the meeting this year. I am not able to speak about any part of the Dominion except Ontario, and my knowledge even in this field is chiefly confined to my own Asylum. The accommodation for the insane in Ontario amounts now to about eighteen hundred beds, about four hundred in Kingston, a little over six hundred at each of the Asylums at Toronto and London and two hundred at Hamilton. The population of Ontario is something like a million and three-quarters; therefore, we have accommodation for about one patient in every thousand of our population We have almost, but not quite, sufficient accommodation for all the insane of the Province, and at Hamilton and London we are erecting additional buildings which will increase our accommodation from eighteen hundred to something over twenty-three hundred beds. When these buildings are completed, as they will be next year, we shall have accommodation for all the insane of the Province, and several hundred beds to spare—so that at the rate of increase of our population and of this unfortunate class in the past, we shall have room for our insane for several years to come.

In my own Asylum at London we have three hundred and two beds for females, and three hundred and thirty-two beds for males. The reason of this difference is that an old building which used to be occupied by the idiotic is now turned into a cottage for quiet male patients. This gives us room for all the male patients who apply for admission, but at present we have some twenty or thirty female applications on file, this side of the building being quite full. There is one feature in the London Asylum different from most asylums on this continent. We are introducing the cottage system in connection with the large Asylum. Our Asylum when finished, as I expect it will be next year, will consist of, (1) a Central Asylum with a capacity of five hundred and forty-four beds, (2) a Refractory Asylum with one hundred and forty beds, (3) three cottages containing sixty beds each. In every instance half of the building is for males and half for females. We shall, therefore, have a total capacity of eight hundred and sixty-four beds. The cottages are all built on the same plan, they each have two wings and a center building, the wings are two stories high, and the center building has an attic in addition, and under part of it is a cellar. The center building is divided

throughout by a partition through which there are no passages except through the kitchen part of the house, and the attendants rooms are above the kitchen, so that half the center building belongs to the male side of the house, and half to the female side. In each half of the center building are two good sized rooms, one up-stairs and one down, which are used both as dining and sitting-rooms. Behind these rooms are the kitchen and scullery below stairs, and a bedroom and sitting-room for the male and female attendants, who are man and wife, up-stairs. A housemaid, these two attendants and the sixty patients complete the household. The wings of the cottages have two flats; the two flats and the two wings exactly correspond to one another. In each flat of each wing are three dormitories, one of eight, one of four and one of three beds. One such cottage as I describe containing sixty beds has been in occupation for three years. The others we expect to get into this autumn. So far this cottage system has been in every sense a complete success, the patients like it exceedingly, so that if they misbehave, as they very rarely do, a threat to remove them to the main building has a powerful effect on them, and actual removal, in extreme cases, for a few weeks will bring the most refractory of them to order.

The cost to build these cottages is low, one hundred and sixteen dollars per patient, and the cost of maintenance is less than at the large Asylum, because the number of patients to an attendant is greater. The cottages are intended for quiet, incurable patients, but not of course for cases of hopeless dementia. Most of the patients in our present cottages work every day.

As to the isolated refractory Asylum I shall be better able to speak about that after it is opened. It will be some three hundred yards from the main building. I am aware that great objections may be urged against this splitting of the Asylum in halves, as it were. I believe it will also be found to have its advantages. Nothing but a practical trial can settle the question, as to which of these, the difficulties or advantages, outweighs the other. I hope at some future day to tell you the result of the trial.

Dr. Wallace, Ontario. Mr. President and Gentlemen, I have much pleasure in being present for the first time at a meeting of this Association. Having but recently engaged in this specialty, and having a very short practical experience in the management and treatment of the insane, I feel that I can not too highly appreciate the privilege of meeting the members of this Association, and by being an eager and attentive listener, learn all I can relating

to the important subject of insanity. The Asylum at Hamilton was originally intended for the accommodation and treatment of the inebriates, and the buildings were nearly completed for that purpose, when it became evident that the demand for accommodations for the insane was very much more pressing than for inebriates. The government decided to convert the buildings into an asylum for the reception of chronic and incurable cases of insanity, and as soon as they were completed they were filled to their capacity of a little over two hundred with chronic cases, transferred from the overcrowded asylums of the Province. It is found that the Asylum accommodation is still inadequate to the demand, but in a few weeks will be commenced the erection of two wings and a rear extension to the present buildings, which when completed will increase the capacity of the Asylum to five hundred and fifty. This Asylum will then be placed on the same footing as the other asylums of the Province, that is, a section of the Province will be allotted to it, from which it will admit its patients on medical certificates, and Lieutenant-governor's warrants, instead of, as at present, receiving its inmates as transfers from the other asylums.

The government of Ontario has a very praiseworthy desire to be abreast of the demand in the provision of proper accommodations for the insane of the Province, and with a view to that end, has purchased from the government of the Dominion, Beechwood Asylum, at Kingston, and will proceed at once to increase its capacity from three hundred and seventy to five hundred. A new wing for refractory cases, and two cottages for incurables, are being added to the Asylum at London. When all these additions have been completed the Province of Ontario, with a population of two millions, will have asylum accommodation for at least two thousand six hundred, and it is hoped that the supply will be abreast of the demand for accommodations for the insane, for some years to come.

The PRESIDENT. If there is any member present who has not been called in this discussion, the Association will be glad to hear his views upon the subject under consideration.

Nothing further having been offered, Dr. Nichols said:

With the permission of the Association I desire to submit a few words in regard to the management of what are usually called the criminal insane. The resolutions passed upon this subject in 1873 are as follows:

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Nothing further having been offered, Dr. Nichols said:

With the permission of the Association I desire to submit a few words in regard to the management of what are usually called the criminal insane. The resolutions passed upon this subject in 1873 are as follows:

"*Whereas*, the President of the Board of Public Charities of Pennsylvania has requested that this Association should express its opinion in regard to the proper disposition of insane convicts, it is therefore

Resolved, That neither the cells of penitentiaries and jails, nor the wards of ordinary hospitals for the insane, are proper places for the custody and treatment of this class of the insane.

Resolved, That when the number of this class in any State, (or in any two or more adjoining States, which will unite in the project) is sufficient to justify such a course, these cases should be placed in a hospital specially provided for the purpose; and that until this can be done they should be treated in a hospital connected with some prison, and not in the wards, or in separate buildings upon any part of the grounds of an ordinary hospital for the insane."

It seems to me that my brethren will bear me out in claiming that I am generally thoroughly loyal to the formal declarations of this Association, but I have never been altogether satisfied with those resolutions, not that I do not agree in the main with what they do declare, but they do not seem to me to so amplify the principles which should govern in the management of the different classes of the insane who have committed criminal acts, as to afford a guide to legislators and other publicists in providing for each class, and that they do propose a solution of the problem that will prove impracticable in many cases, and is therefore not likely to be carried into general effect. It should be clearly understood what classes of persons are embraced under the general designation of the *criminal insane*. Insane persons who have committed criminal acts may be divided into three classes: 1st, those who have been convicted of criminal acts, and while undergoing punishment therefor became insane; 2d, those who have been indicted for criminal acts, and are, on trial, acquitted on the ground of insanity; 3d, those who have committed criminal acts in such obvious conditions of insanity as to lead to their being sent to institutions for the insane without trial. The first class is largely, not exclusively, composed of persons that belong to what are called the vicious classes; their birth, education (or rather the want of it) and associations have been most unfavorable to proper moral development, and their insanity is often the cumulative result of a life of dissipation and vice. We all agree without doubt that in the language of the first resolution "the wards of ordinary hospitals for the insane" are not proper places for the treatment of such patients. Every proper sensibility revolts at the idea of placing

such hardened criminals as most of the insane of this description are, with what may, for convenience, be called the innocent insane, which embrace in our public institutions many people of the highest character and most refined sensibilities; neither is it compatible with their proper treatment as such persons, or with the health and comfort of their fellow-prisoners, that they should be kept in "the cells of penitentiaries." Then these persons who have been indicted, and acquitted on the ground of insanity, belong largely, but less exclusively than the first class, to the vicious classes, and the association of many of them with the innocent or ordinary insane is, as in the case cited by Dr. Kempster, utterly repugnant to our ideas of propriety. That their insanity preceded the criminal acts for which they were indicted and tried was purely accidental. There was a proclivity both to disease and vice. On the other hand, some well-balanced and virtuous persons become insane from one or more of the physical or moral causes of mental disease to which the best of men are exposed, and sometimes succumb, and are driven by their insanity to the commission of criminal acts, for which they are indicted, tried, and acquitted, as aforesaid; and if the criminal act have been a homicide such a patient ought not, it seems to me, to be associated either with the first class or with the ordinary insane. Finally, there is the third and last class of the criminal insane, those who are known to be insane before the commission of a criminal act, or upon the commission of the act are seen to be too insane for trial, and are sent to institutions for the insane. Fewer of this class have led vicious lives than of the second, and fewer still than of the first, but, like the second, some are not fit associates of the inmates of the penitentiary asylum, and others, especially homicides, are not fit associates of the ordinary insane. Our State institutions provide especially for such of the insane as have not the means to provide for themselves. They can not go anywhere else, and embrace some of the very best people in the community, and it seems to me that they should not be compelled by the double misfortune of loss of reason and indigence or poverty, to lie down and rise up, eat and drink, work and worship in close companionship with those who have been so unfortunate as to have committed homicide, or other flagrant criminal act, especially if their whole lives have been vicious, and their society repugnant and contaminating. Any gentleman I address may be compelled to send his wife or his daughter, in case she should become insane, to a State, or other public institution, and I am sure that there is no gentleman present who would be willing

to have his wife or daughter closely associated with a woman who had committed a homicide, though legally excusable because insanity existed prior to the killing, and it seems to me scarcely less than cruelly oppressive to compel a lady or gentlemen to submit to such association because of lack of means to pay for treatment in a corporate or private institution. Now, what is obviously wanted is a scheme that will, in general, fairly meet the obligations of society to all insane persons who have committed criminal acts; that is practicable to attain under all circumstances; that admits of such variety of adoption as to render it applicable to the proper treatment of the second and third classes, into which I have divided these people, and that properly protects the ordinary insane. The great question is, what shall it be. The great States of New York and Pennsylvania, and perhaps some others that have two or more large State penitentiaries, should each provide a separate institution, to which all their insane criminals (those of the first class) should be sent and properly cared for, as required by the resolutions. Two or more of the smaller States, each of which has but few insane criminals, are not likely to unite in establishing and maintaining such an institution for their common benefit; and the best practicable plan of providing for the cases of insanity that arise in their penitentiaries, is to establish and maintain an insane department of the prison hospital, to be under the charge of the prison physician. It may consist of one or more wards for each sex, according to the requirements of each prison. The number of insane in each prison is generally quite small, and one insane ward for each sex will, in most instances, be sufficient.

Dr. WALKER. Suppose there is not room?

The PRESIDENT. If there is not room there ought to be, and it should be obtained, just as any lacking requirement of the establishment should be supplied. Having provided for insane criminals, what shall be done with insane that have committed criminal acts, but have not been tried for them, or if tried, not convicted or sentenced to punishment, and that are usually sent to the State institutions. I have given this subject much thought, and it seems to me that the obligations of society to all parties concerned will be best fulfilled by having entirely separate wards, generally in a separate building, as a department of each State and large municipal institution for the insane, for the care of such patients as are now under consideration. It may be asked will not this plan be attended with hardship in some cases; for instance, a pious mother having been seized with melancholia, and destroyed her

child in consequence, may have been tried and acquitted on the ground of insanity, and sent to a State hospital for the insane, and it may be thought hard to keep her all her life, or during the continuance of her disorder, in the exclusive society of insane persons who have committed criminal acts, the lives of some of whom have been more or less depraved. The answer is, I think, that the plan proposed for the convicted classes has a practicable flexibility, by which it may be adapted to the requirements of peculiar cases. Such a person as I have just described may be taken into a ward with the ordinary insane if her refinement and prudence are such that she would give no just offence to her associates on such a ward. If she should first be sent to an institution for insane criminals, such relief would generally be impracticable, and without the express and separate provision for the unconvicted classes that I have suggested, the ordinary insane are liable to have the most unfit, if not injurious, associates. It seems that in Massachusetts substantially the provision for the insane convicts that I have suggested is being made in connection with a large penitentiary now building, and that in Wisconsin, and perhaps in one or two other States, wards connected with the State institutions are being provided for the separate care of patients who have committed criminal acts. In favoring the scheme of providing for the criminal insane, which I have briefly described, it may be claimed that it will cost less than any other mode of treating them, entirely separate from the ordinary insane, a consideration that is likely to give it favor with the public, and I know of no practicable objection to it that does not apply with greater force to the plan of the resolutions, or any other plan that has been suggested to me. To carry it into effect involves some additions to the material provisions, and some changes in the administration, both of public institutions for the insane, and penitentiary hospitals, but they can rarely be impracticable, and can never be of great cost; and if such additions and changes are needed, and sufficient to the end sought, they should be advocated until they are attained.

Dr. CHIPLEY. What would you do with the other class, the class not found to be insane at all, but acquitted on the ground of insanity? It has been clear to my mind that some have not been insane at all.

The PRESIDENT. Unless such persons have been acquitted on our testimony, we have no responsibility in relation to them, no more than we have in relation to other rascals who manage to get

unjustly acquitted of criminal acts by any of the subterfuges of lawyers, or otherwise. The courts are responsible for such cases, not we.

Dr. CAMDEN. Can you make any disposition of the criminal insane in the District of Columbia? The reason I ask is that we have a government insane person that we want to get rid of.

The PRESIDENT. When the law organizing the Government Hospital for the Insane was passed, there was a United States penitentiary in the District, and provision was made for the admission of insane convicts from that prison, provided that in the judgment of the Superintendent of the Hospital and physician of the penitentiary a case was not too depraved and dangerous for treatment in the former institution. The act making this provision was passed in 1857, twenty years ago, and you will see that it carries into practical effect the views I have imperfectly set forth.

Dr. CAMDEN. Have you any means of ridding us of the patient to whom I refer, he is in our State prison, and a non-resident, and we would like to send him home?

The PRESIDENT. There is a provision of law under which it is discretionary with the Secretary of the Interior, to admit to the Hospital insane criminals, convicted in United States Courts, or decline to admit them. That officer has twice declined to admit the case referred to by Dr. Sawyer, a United States convict in the Rhode Island penitentiary, on account of the crowded state of the Hospital, and for the same reason I do not suppose that he would admit the prisoner referred to by Dr. Camden. Since the breaking out of the late war the government has maintained the District criminals in the Albany, N. Y., Penitentiary, and when any of them become insane I presume they are placed in the Auburn Asylum under Dr. MacDonald.

Dr. GUNDRY. With your permission I will say a few words. I shall not dispose of the problem as easily as you have done, the question of room. The facts are that in the Ohio penitentiary we have eighteen hundred prisoners, and while they are building a wing to receive four hundred, we have no place for making the accommodations for these persons of whom you speak. There are forty-five, or over, that I believe to be insane. They are all kept in what I call cages; they fortunately have ventilation, but they are within the sight of the other convicts. Now as to building an additional hospital. The present hospital is already occupied by the sick people of that penitentiary; there is not room enough within the walls, and outside the walls there is not a foot of ground

near the penitentiary that could be used, because that ground is used by private parties and railroads, so that what you recommend is practically impossible. Now comes the practical question submitted to this Association. I have my own views. Of course the proper way is to build a proper hospital for these people, a building to be separate for criminal persons who become insane. Here are persons who have actual insanity, fifty-five persons, besides others who mingle with the insane but who have not done such acts as to warrant the authorities to separate them from their companions.

The PRESIDENT. It seems to me that the alternative would be to go away to another site.

Dr. GUNDRY. I confess I think it would be a great deal better to bring them into a hospital at once than to have them where they are. They are not abandoned men, and if they can not make suitable and proper provision in a proper place, I think it would be better to take them into our wards and care for them there, and then have the State make provision for them. This would be better than to keep them where they are.

The PRESIDENT. I am afraid if they should be put into our institutions the public would say, they are being too well cared for.

Dr. GUNDRY. That is true, but when the pressure came from other persons there would be a change. Now they excite little sympathy. We should have, then, the pressure from the other side on account of occupying somebody else's room. Now they are out of sight, and I may say nobody cares for them, I think I will bring them into the light of public opinion, but I think I shall not, for the time being, go averse to the rules of this Association.

Dr. WALKER. Of course this Association can at present lay down only general rules, for we can not dispose of every accidental case that may come up. The Association has published its declaration of what, in its opinion, is suitable accommodation for such a class of criminals, for such persons as have been referred to by Dr. Gundry. If it is utterly impossible for the State of Ohio to provide for them under the present circumstances, of course it is for the State of Ohio to do the best it can. I suppose there can be no difference of principles in the Association.

What I wanted to say is, I think there is a misconception, Mr. President, in your view of the scope of the resolutions. It is headed "care for insane criminals," and if I recollect aright, this question was raised to meet the views of a number of superintendents on transferring six or eight, or a dozen, insane criminals

from prisons into State Hospitals. I know it was particularly complained of that these old convicts who, during prison life, had become insane, were sent for permanent care to the State Hospitals. I do not think that these resolutions contemplated these cases on the border land, or freshly insane who commit violent acts either against life or property. I think the resolutions attempted to declare the views of this Association as to what are declared truly insane criminals, and not the criminal insane, and that we do not undertake to provide for the other classes at all, but that is for this Association yet to do. I think this is intended to meet the the demand of these superintendents who protested against having their wards filled with criminals from State prisons.

Dr. HUGHES. There has never been a doubt in my mind regarding the scope and purpose of that resolution, though I had not the pleasure of meeting with the Association at the session at which the resolution was adopted. It has never occurred to me that gentlemen at all practically familiar with the question of insanity would class among the criminal insane those who, by reason of mental infirmity, have committed acts in violation of law. With insane men who do acts in violation of law the question of responsibility is held suspended until their mental state is established, if the question of mental competency be raised. An insane man can not be held criminal for acts done in consequence of mental disease. If it were contemplated to include the innocent and criminal insane together, I apprehend that this Association would not adopt such a resolution with unanimity. The inherently depraved, whose insanity is the legitimate product of a life of criminality in themselves or their ancestry, can not be scientifically classed with such as have only the appearance of criminality, consequent upon disease, and who, in their best mental estate, when their faculties were sound, never transgressed the law. The wife who, in a fit of melancholia, destroys her offspring, imagining it unfit to live, or the son or brother who, under some other delusion, becomes a patricide or fratricide, are not criminal, though a jury may so regard them, any more than the pyremaniac who burns down his dwelling to dislodge an imaginary devil. These are not the criminal insane, though they do things after their insanity which criminals do before mental overthrow.

On motion, the Association adjourned to 8 P. M.

MAY 29, 1877.

The Association was called to order at 8 P. M., by the President.

Dr. Curwen introduced to the Association Dr. Wm. Corson and Gen. James A. Beaver, Commissioners of the State Hospital for the Insane, at Warren, Pa.

The Secretary read a biographical sketch of Dr. Henry Landor, deceased, prepared by Dr. Stephen Lett.

Gentlemen: Since the last meeting of your Association you have to deplore the removal from your midst, by death, of your former respected colleague, Dr. Henry Landor, late medical Superintendent of the Asylum for Insane at London, Ontario. Dr. Landor's genial presence at the annual gatherings, for a number of years past, many of you will doubtless well remember. The sad event of his death took place at his residence, contiguous to the Asylum at London, on the sixth of January, last, after a brief illness.

The following cursory biographical sketch of the career of your late friend and associate will not, I trust, be unacceptable. Dr. Landor was a descendant of an old English family whose name became historical through the literary genius and works of the celebrated Walter Savage Landor, of whom the subject of your notice was a cousin. Dr. Landor was born in the Island of Anglesey, in the Welsh principality, in the year 1815. He spent his early boyhood in Liverpool, where he received his scholastic training under the care of Dr. Prince, a teacher of some reputation at that period, through whose hands passed many men of note, some of whom have attained to deserved reputation and eminence as statesmen, amongst these prominently stands the Right Honorable W. E. Gladstone, who is still, as he has long been, an able and distinguished member of the English House of Commons. When Dr. Landor left school at Liverpool, he was sent to Stockport, in the county of Chester, where he became an articled pupil to Mr. Richard Flint, surgeon to the Stockport Infirmary, and after a creditable course of study and discipline here, he proceeded to London and continued his studies with assiduity and success at the Aldersgate School of Medicine. From this Institution he graduated in the session of 1835–36, carrying away, not only cer-

tificates of honor, but also the silver medal awarded in the class of surgery, then under the professorship of the renowned Dr. Frederick Skey.

In the year 1837 Dr. Landor was admitted a member of the Royal College of Surgeons, England, and licentiate of the Society of Apothecaries, London. He now spent some time in walking the hospitals, after which he settled in private practice, until 1841, when he received the appointment and was sent out as Stipendiary Magistrate to Australia. After a residence of six years in the colony, he returned to England, bringing back with him from the then Lieutenant-governor, Sir W. Winneet, the highest testimonials as to conduct and capacity. In a short time Dr. Landor again received an appointment as Colonial Surgeon to the British Forts on the Gold Coast of Africa, whither he proceeded in the year 1847. Scarcely had he been there two years before he became a victim to the malarious fever incident to that country, and he was obliged precipitately to leave and seek his native climate. He was carried on board ship in a state of insensibility, and with apparently little hope of survival, and he reached England in a painfully debilitated condition, early in 1849. The invigorating change of climate, in conjunction with a return to his old habits of life, gradually restored him to his wonted health and strength. During his convalescence, at this period, he wrote a pamphlet, entitled "The only way to stop the Slave Trade," which was favorably received by the public, and had a large circulation.

Having entirely recovered his health he now entered upon the study of insanity, with the view of making it a professional specialty, and in the year 1850, in association with the late Dr. Donald Dalrymple, M. P., Dr. Landor became resident physician to the Higham Retreat (private Asylum) at Norwich, county of Norfolk. Here he remained for nearly ten years, pursuing his specialty, and engaged in various scientific studies, notably geology and chemistry, and contributed occasional articles to the press. During this time he contributed to the Proceedings of the Royal Geographical Society of London, a paper on the probable condition of the interior of Australia. In 1859 he was admitted a member of the Royal College of Physicians, Edinburgh. Upon leaving Norwich Dr. Landor went to Southsea, again entering general practice, but being desirous of seeing more of the world he did not remain long there. He came to Canada in the fall of 1860, and settled in London, Canada West, now the province of Ontario, commencing a private general practice, and continuing therein

until 1868, when he received the appointment of Medical Superintendent of the Malden Lunatic Asylum, Amherstburg, Ontario, an institution which through neglect and inefficient management had fallen into culpable disorder. Here Dr. Landor at once evinced his eminent fitness for the work devolving upon him—the thorough reorganization. Knowing well what was needed, and being a shrewd judge of character, he soon gathered around him persons well adapted to this special calling, and in an incredibly short time the whole establishment was placed in as effective working order as the nature of his material—buildings ill-calculated for the purpose—would admit of.

Two years later, when the Malden Asylum was closed, and the new buildings at London were ready for the reception of patients, the government of the day recognizing Dr. Landor's distinguished qualifications for asylum work, as well in organization and administration as in strictly professional skill, the authorities were pleased to intrust to him the superintendency of the new Asylum at London, and hither Dr. Landor removed in the fall of 1870, filling the office most efficiently, and with the highest satisfaction to the government and the public, up to the time of his lamented decease. The admirable order, discipline and working condition in which he left the Institution bear ample testimony to the zeal and fidelity of his unremitting care and labors. *Si monumentum quæris circumspice.* Dr. Landor was a true, though unostentatious philanthropist. His constant aim appeared to be the good of his fellow creatures. Endowed by nature with more than average mental ability, having had the advantages of a good professional training, a close thinker and shrewd observer who had enjoyed a wide field of observation, he was accustomed, as he was well able, to form his own opinion, and was always ready to give a reason for the faith that was in him. His judgment was generally sound, and his actions had as little of the alloy of selfishness as those of most men. He was a firm believer in the solid graces of good works from worthy motives, regarding these as the only evidences of Christian character, and this doctrine he always endeavored to exemplify in his daily life and work.

As regards asylum management and the treatment of the insane, Dr. Landor was a strong advocate of *non-restraint.* It was his conviction that, with intelligent, properly trained attendants and due supervision, in a well appointed and not overcrowded asylum, with all its arrangements judiciously adapted to its occupants, the cases in which restraint, either mechanical or chemical, is necessary,

are very few indeed. He had but little faith in the curative power of any special medical treatment, but looked rather to hygiene and nourishment for the restoration of the *mens sana in corpore sano*, where such restoration was possible.

Dr. Landor's late ambition was to test the treatment of the chronic, harmless insane in cottage residences, possessing as much as possible the characteristics of a home, situated on the grounds and being under the same superintendence as the main asylum. In this, his desire, he so far succeeded as to have erected on the premises of the London Asylum, a group of three buildings, containing in the aggregate sixty patients, viz.: thirty males and thirty females, and although by reason of the limitation of pecuniary means, the Doctor was unable to carry out fully his ideas, he had nevertheless, the great satisfaction of seeing his scheme in operation for two years and upwards, under tolerably fair conditions, and attended with a degree of success extremely gratifying to him, if not exceeding indeed, his high expectations. Dr. Landor's long and beneficial service in the special branch of our profession, to which he had so successfully devoted himself—his superior intellect, his extensive knowledge and varied acquirements had justly gained him high respect, while his frankness of disposition and genuine kindness of heart, endeared him greatly to those with whom he was personally associated, even to the humblest of his subordinates.

As many of you will probably remember Dr. Landor attended the meeting of the Association at Staunton, Virginia, in 1869, and at Toronto, Canada, in 1871, on which latter occasion he had the pleasure of conducting the members—doubtless some of you now present—to London, entertaining them in the Asylum there, which at that time had but recently been opened. He was present also at Madison, Wisconsin ,in 1872, and in Baltimore in 1873. The following year, 1874, he denied himself the pleasure of meeting the Association at Nashville, Tennessee, in order that his assistant, Dr. Lett, might enjoy that privilege. The last meeting at which your associate, the late Dr. Landor, was present was that held at Auburn, N. Y. in 1875. Last year, (1876) failing health rendered it necessary for him to rest from his duties, and he was hence debarred the pleasure of meeting you in Philadelphia. During Dr. Landor's attendances at the meetings he contributed to the proceedings of the Association two papers, the first being on "Insanity in relation to law," read at the meeting in Canada in 1871; and the other on "Hysteria contrasted with Mania," read at Baltimore

in 1873. He also published in the AMERICAN JOURNAL OF INSANITY his views and experiences upon the practice of sending out patients on probation.

Dr. Landor labored under that fatal form of disease, diabetes mellitus, of which he became cognizant some five years ago. At this time it appeared to be making inroad upon his previously vigorous constitution. Rest, however, from mental strain, and change of scene seemed to check its progress, and for some time he apparently suffered but little inconvenience. During the winter of 1875–76 symptoms of failure again appeared, and when spring opened (last year) it was found desirable again to have change of air and scene, in conjunction with rest; and now resort was had to the sea coast of Virginia, Old Point Comfort, where the Doctor remained for some weeks with much benefit. Returning to his duties with renewed vigor, he efficiently administered the affairs of the Asylum until last December, when he was again so prostrated as to have to take to his bed. He now felt convinced that his final struggle was approaching. His mind was still, however, in his work, and though unable to raise himself in bed he anxiously continued to give directions for the well-being of those under his charge. Only a few days before he lost consciousness (from coma) and at a time when he knew and felt death steadily drawing nigh, he wrote a most urgent letter to the government calling its attention to the necessity for further provision for the insane. After this he rapidly sank, expiring on the sixth day of January, A. D. 1877, in the sixty-second year of his age, leaving a sorrowing widow and eight children to mourn their irreparable loss. Your departed colleague was a good husband and father, a warm and sincere friend, and a conscientious and faithful public officer.

On motion it was resolved that the memoir of Dr. Landor be printed in the proceedings of the Association.

Dr. GUNDRY. Mr. President, if you will allow me, I have a subject to bring up at this time. It is in regard to an occurrence which has happened since our meeting last year. You will all remember that at the meeting last year we were cheered by the presence and the few words given to us by our venerable friend, Dr. William M. Awl. It seems to me a sad affliction that at the first meeting west of the Mississippi this Association should have announced to it the decease of the psychological pioneer west of

the Alleghanies. Dr. Awl died, I think, in January of the present year, and I therefore move that such steps be taken by the Association as will test the sense of our loss of this beloved man. I I may add that I should have been prepared, probably, with a memoir, though I understand from a friend that it was in our hands, and would be delivered here.

The motion of Dr. Gundry was agreed to.

Dr. McFarland. While on the subject of Dr. Awl, I will state in explanation of a remark made by Dr. Gundry, that I wrote to Dr. Awl's daughter during the winter, stating that I proposed to present at this meeting some reminiscences of older members, which I accordingly prepared. Miss Awl forwarded me a sketch which I have not with me. It was not precisely what my purpose required, as my paper was not intended to be biographical as she conceived. I embodied only such portions as I found would serve my purpose; but the paper I have does not answer the scope of Dr. Gundry's design, which is eminently a proper one. As already remarked, I have a paper in which a sketch of Dr. Awl, as well as other members of the Association, will enter.

The President appointed as the committee to prepare a memoir of Dr. William M. Awl: Drs. Gundry, McFarland and Kirkbride.

Dr. John B. Chapin, from the committee appointed at the last meeting of the Association, to prepare a memorial of Dr. George Cook, read the following, which was ordered to be entered in the proceedings of the Association.

It has been an honored custom of this Association to place in its archives a memorial of the life and services of its deceased members, as an honorable tribute to their memberships of this body, to perpetuate their virtues, and that their survivors and successors may emulate their excellent qualities.

Dr. George Cook was born in Cayuga, a village on Cayuga Lake, in the State of New York, in November, 1824. After receiving such an education as the local academy afforded, he entered upon the study of medicine in the office of Dr. Shaw, of Cayuga. He received his degree of Doctor of Medicine from the Geneva Medical College in 1846. By the advice of Dr. C. B. Cov-

entry, one of the Professors of the College, and one of the managers of the State Lunatic Asylum at Utica, then under the superintendence of Dr. Brigham, he was appointed an assistant physician in June, 1848. On the death of Dr. Brigham, in 1849, he became the acting Superintendent, and made the Seventh Annual Report of that Asylum. A portion of the years 1853 and 1854 he spent abroad, in attendance upon general hospitals and asylums for the insane.

In 1855, Dr. Cook removed from Utica to Canandaigua, and set about the establishment of a private hospital for the insane, which was afterward incorporated under the name of Brigham Hall. The creation and administration of this Institution was his life-work. During the twenty-one years he was connected with Brigham Hall he treated more than one thousand patients. This Hospital stands to-day a monument of his life-work, and of an amount of self-denying, untiring labor rarely witnessed in human experience. Dr. Cook made several contributions to our medical literature, among them papers on "Mental Hygiene," on "Inebriety," "Notes on European Asylums," "Provision for the Chronic Insane," in which subject he was deeply interested, and with which he was most prominently identified, on the condition called "Transitory Mania," and on other topics.

As a citizen he was called to fill many responsible positions. He was a Trustee of the Canandaigua Academy, of the Ontario Female Seminary, and of the Ontario Orphan Asylum. He was twice elected President of the village of Canandaigua. On the organization of the National Bank of Canandaigua he was elected its first President. He was elected supervisor of his township and afterwards to the State Legislature. He served his fellow citizens in many positions of an honorable and fiduciary capacity.

Dr. Cook was a person of decided religious convictions, he was a member of the Congregational church in which he co-operated in various offices with his pastor. He had charge of a Bible-class composed of young men, and found time during the week amid the pressure of other duties to make careful preparations for his Sunday's work. As a physician in the management of all the delicate relations which pertain to the insane and to hospitals for the insane; as a citizen of the community in which he lived, and, as a Christian, he discharged every obligation to the fullest measure of his capacity and strength, without ostentation, conscientiously and from conviction. His life may be said to have been passed in the service of, and for the benefit of others. To the majority of this Associa-

tion Dr. Cook may have been personally unknown, yet the commencement of his service with the insane, dates with that of the oldest members of this body.

It was the fortune of one member of the Committee to hold intimate personal relations of various kinds with Dr. Cook, for a period of twenty-two years; and I here bear record to his high-toned principles, his gentleness, his unimpeachable integrity, and his unswerving devotion to his convictions when formed. He was free from ostentation, apparently of a cold exterior, reticent in manner, possessed of extraordinary resolution, and a degree of calmness and self-control beyond that which ordinarily falls to the lot of men. Of the circumstances of his sad and sudden end by the hand of one of his patients, which occurred on the twelfth of June, 1876, while in personal professional attendance upon him it is not proposed to allude, except to record the fact. Neither are we to believe that sudden death would have been an unwelcome issue if it had been given to our brother to have contemplated the certainty of such an event, yea, we are rather to believe that this one of his prayers was certainly answered. In the last communication with his pastor a few days only before his death, he referred to the uncertainty of life and his preparation for death, and expressed his hope and prayer that when the summons came it might be sudden.

The Committee recommend that the following resolution be ordered to be entered upon the records of this meeting of the Association.

Resolved, 1st. That this Association recognizes in the sudden death of Dr. George Cook, the agency of a mysterious Providence, by which it has been deprived of the membership of one whose entire professional life of thirty years was devoted to the care of the insane, and of one who adorned and honored the profession of his choice in the various relations he held to the community in which he lived, and whose life was ended in the performance of his active professional duties.

Resolved, 2d. That this Association here records its appreciation of all those higher qualities of mind and heart which actuated our deceased associate, and with which he was so richly endowed.

Resolved, 3d. That the Secretary be requested to express to the family the sympathy which we entertain for them in their bereavement, and the loss which this Association has sustained in the death of Dr. Cook.

On motion, the resolutions were unanimously adopted.

Dr. McFarland. Gentlemen of the Association, quite to my surprise I find myself at this meeting of the Association the senior in date of membership of any present, and hence there seems an unexpected fitness in the title of my paper, "Association, Reminiscences and Reflections."*

Dr. McFarland then read the paper.

Dr. Walker. Mr. President, I rise to say, sir, simply that a paper of that description hardly admits of discussion in this Association. Still it is perfectly appropriate that we should express our full approbation of such a happy description of those who once occupied the positions made eminent by their having filled them. The paper gives to us the reality of the eminence of those who have gone before us. It has been a long day since I have listened with so much delight to a paper read to this Association. It was not my good fortune to know all the characters mentioned, But so far as my knowledge, and observation, and acquaintance extend, I must express my highest delight at the care and discrimination by which these characters have been drawn and presented to us this evening. I believe, sir, when this paper is printed and placed in our hands, it will do a great deal toward arousing among the later members of the old Association that strong attachment which originated with its earliest founders. It has given to us not only a vivid and accurate account of the object for which this Association was founded, of the objects steadily kept in view by the original members during the first and most important years of its existence, and what the earlier members had to contend with, but it has also given to us, who did not know them, a most capital and vivid picture of their personality; and one can readily see, from the word-painting of their characters, how much they endeared themselves to their associates, and all brought into contact with them. I rise simply to express my gratitude to Dr. McFarland for the labor of love towards those with whom he was so long connected, and to move that it be printed among the proceedings of the Association, and that the hearty thanks of the Association be extended to him for the infinite entertainment he has given us this evening.

The motion was unanimously agreed to.

The minutes of the proceedings of the day were then read and, on motion, the Association adjourned to 10 A. M.

* Will appear in the January number of this Journal.

MAY 30, 1877.

The Association was called to order at 10 A. M., by the President.

Dr. Kempster, from the committee to prepare a memorial of Dr. A. S. McDill, read the following biographical sketch:

Alexander S. McDill, M. D., was born in Crawford county, Pennsylvania, March 18, 1822; he was educated at Allegheny College, studied medicine and received his diploma at the Cleveland Medical College. After some years of professional labor in his native State, he removed to Wisconsin, where he soon acquired many friends by his cordiality and friendly disposition. In 1862 he represented his district in the State Legislature, and in 1863–4, he was a member of the State Senate. In his capacity as a legislator he soon became eminent and he wielded great influence in the bodies to which he was elected.

In 1862 he was appointed a Trustee of the Wisconsin State Hospital, and here too he manifested a lively interest in all that pertained to the welfare of the Institution. In 1868 the Board experienced some difficulty in procuring the services of a competent superintendent, and insisted that Dr. McDill, who had always manifested great interest in the treatment of this most unfortunate class, should take charge of the Institution. With many misgivings, he consented to do so for a short time. At the end of three months, so satisfactory had been his administration that the Board of Trustees insisted upon his taking permanent charge of the Institution. With great doubts as to his ability to properly conduct the affairs of the Hospital, he finally accepted the responsible position, and from first to last his administration was regarded as a success.

In 1872, Dr. McDill was elected to represent his district in Congress, which he did with the same honesty of purpose, the same undivided attention to the business before him, that characterized him in all the walks of life. After retiring from Congressional labors he was again called to take charge of the Institution he had left for two years, and in April, 1875, he once more assumed control of the State Hospital at Madison, promising himself to devote the remainder of his life to the specialty he liked so well. This he did, but alas, how short the time! On the 13th day of November, 1875, he ceased from his labors.

In estimating the character of our departed brother, we feel that we can do no better than to reiterate the opinion of one who had known him long and intimately. "As a hospital superintendent, Dr. McDill was remarkably successful. He was a clear-headed man in all things, cool and deliberate in his actions, an excellent judge of human nature, an industrious man, popular and pleasant in his manner, in fine he possessed executive ability of the highest order. In all the relations of life Dr. McDill was an exceptionally good man, as a legislator he was able, industrious and efficient; as a physician he was skillful and successful; as a hospital superintendent he was accomplished and popular; as a citizen he was liberal and ever ready to act well his part; as a friend he was true and reliable; and as a husband and father he was affectionate, kind and indulgent."

Although cut down in the prime of life, he had not lived in vain, and the good influences emanating from him, who can estimate, who can measure their extent? The Committee would respectfully suggest that, as a tribute of respect to our departed associate, the foregoing memorial be placed upon the records of this body.

On motion it was resolved that the memoir be printed in the proceedings of the Association.

On motion of Dr. Carriel it was resolved that Dr. C. T. Wilbur, Superintendent of the School for Feeble Minded Children of Illinois, be invited to take a seat with the Association.

Dr. Grissom then read a paper on "Mechanical Protection for the Violent Insane,"* the discussion of which was postponed for the present.

The President then announced the following standing committees:

On Resolutions, &c: Drs. Walker, Reed and Grissom. On time and place of next meeting: Drs. Gray, Everts and Compton. To audit the Treasurer's accounts: Drs. Rodman, Carriel and Sawyer.

* Printed in the July Number of this JOURNAL.

The President then read a paper prepared by Dr. Isaac Ray, on "The Cost of Construction of Hospitals for the Insane."

On motion of Dr. Grissom it was resolved that the paper of Dr. Ray be published by the Association, so that each member may have several copies. On motion the Association adjourned to 3 P. M.

The Association was called to order at 3:30 P. M., by the President, at St. Vincent's Asylum for the Insane.

Dr. Bauduy read a paper on "Unconscious Cerebration and Cerebral Localization,"* the discussion of which was postponed for the present.

The Committee to audit the accounts of the Treasurer made the following report:

The Committee to audit the accounts of the Treasurer respectfully report that they have performed that duty—have compared the vouchers with the expenditures, and found the accounts correct: and that there are bills due for printing to the amount of $413.93, and they recommend an assessment of ten dollars on each member to defray the expenses of the Association.

JAMES RODMAN,
H. F. CARRIEL,
JOHN W. SAWYER,
Committee.

The report was, on motion, accepted, and the recommendation adopted.

On motion the Association adjourned to 8 P. M.

The members were then conducted through the wards of the Asylum, and afterwards partook of a bountiful collation.

The Association was called to order at 8 P. M., by the President.

The ceremony of marriage between Dr. Andrew McFarland and Miss Abbie King was performed by Rev. Mr. Campbell, in the presence of the Association.

* Printed in the July number of this JOURNAL.

On motion the Association adjourned to 10 A. M., Thursday.

MAY 31, 1877.

The Association was called to order at 10 A. M., by the President.

The President laid before the Association invitations to visit the Mercantile Library Rooms, to attend the closing meeting of Prof. Ives' class of Washington University, and to visit the Women's Christian Home.

The minutes of the proceedings of yesterday were read and approved.

Dr. Gray then read a paper on "Suicide," the discussion of which was postponed for the present.

Dr. Hughes read a paper on "Unilateral Abscess of the Cerebellum," the discussion of which was postponed for the present.

Dr. John B. Chapin read a paper on "A Consideration of Some of the Obstacles to the Advance of Mental Medicine," the discussion of which was postponed for the present.

Dr. Gray, from the committee on the time and place of the next meeting, reported in favor of Washington as the place, and the second Tuesday of May, 1878, as the time.

On motion the report was accepted and adopted.

On motion of Dr. Walker it was resolved that the paper read by Dr. McFarland be printed in pamphlet form, so as to furnish each member with three copies.

On motion of Dr. Kempster it was resolved that the papers which have been read be discussed in the order in which they were read.

The PRESIDENT. Dr. Walker, I call upon you to submit such remarks as you desire upon Dr. Grissom's paper.

Dr. WALKER. In regard to the paper of Dr. Grissom I am free to say that I approve of it. It was distinctly moderate and written

in the most conclusive form. In relation to the distinction of Dr. Bucknill, I have nothing to say, but to express my entire concurrence. As a personal matter, perhaps I should prefer, if the Doctor could do so, to leave out all reference to me by name in that paper. All I have to say is, that my opinions in regard to the use of mechanical restraint have undergone no change during the discussion, or since the visit of our distinguished brother from across the water, but, on the contrary, having made more faithful and continued efforts during the past year than ever before, to diminish the amount of mechanical restraint, and do without it altogether, I am forced to say that I stand here to-day with my opinions entirely unchanged. I believe it is not only a humane thing, but absolutely essential for the best good and comfort of our patients. I believe this, that the practice of the best American institutions on that point to-day will, hereafter, be the practice of Christendom. I have no doubt of it at all. I do not wish to say a word to call out unkind criticisms or incite any feeling whatever, and I content myself with saying that my opinions are not only unchanged, but that they have been more and more confirmed in my practice of the past year.

Dr. Gray. In any remarks I may make, I shall not attempt to follow the long and elaborate paper of Dr. Grissom, neither shall I feel it necessary to enter into the discussion of the merits of the various modes of restraint resorted to in the treatment of certain cases of insanity. That some kind of restraint, in certain cases, is necessary, seems to be universally conceded in practice, despite the theories. Dr. Grissom happily strikes the key-note when he uses the word "protection." The term *non-restraint*, which our British brethren are so fond of using, is as inapplicable there as it is here and I do not see that they are in a position to lecture us on non-restraint, until they have adopted such a system themselves. We confess to the use of mechanical restraint, in a small proportion of cases, and they confess to the use of manual restraint and forcible seclusion in padded rooms. We put ourselves in a false position when we allow them to arraign us from a standpoint of no restraint. The real question at issue is not restraint or non-restraint, but whether mechanical or manual restraint is the most judicious and humane, when such means of treatment are demanded for the best welfare of the patient. I think Dr. Grissom has put the question clearly, and it is a fair matter for discussion, in the light of experience, to determine the relative value of the two modes. The discussion of the subject, on its merits, by experienced men on

both sides of the water can certainly do no hurt and may do good. The whole question of restraint is practical and not speculative. Nobody advocates restraint, in any form, as a *system of treatment*, but merely as a method of protection against the violence occasionally manifested in the disease. It is unnecessary to talk about non-restraint or restraint as "corner-stones," or of restraint as anything beyond incidental protective measures. It probably would not be disputed that all modes might be dispensed with, and all patients left to themselves and to the impulses arising out of their disordered states, but would this be judicious or humane? In Britain men of equal experience differ on the problem of restraint, as their journals clearly show, and as the paper of Dr. Grissom has demonstrated. In the great reaction from the excess and abuse of restraint, some are going to the other extreme, but this will in the end right itself. What we now seek to demonstrate is the minimum of restraint needed and to use as little as possible is the aim of practice, and no one advocates anything else. The *mode* of restraint will resolve itself under clinical observation, and as the whole matter is a question of medical practice, we are not to be arraigned as ignorant and barbarous, as the *Lancet* would make us.

It has been objected to mechanical means that they humiliate, as well as deprive the person of his freedom. They do interfere with personal liberty, but only in the way of protecting against violent, injurious and too often degrading conduct, arising out of delusions, or symptoms of disease. To be forcibly held by attendants is quite as humiliating (if either humiliates when persons are in such a state) and quite as great interference with personal freedom, and in my opinion and in my experience far more irritating. Indeed I have often had patients beg to have restraint put on in the anticipation or dread of a paroxysm of maniacal violence, or melancholic frenzy, and many persons, after recovery, have thanked me for thus protecting them from self-injury and personal exposure. I said in the beginning I should not here discuss the merits of modes of restraint, but I will say that I should prefer a camisole, in a paroxysm of violence, which would confine the hands, without compressing or bruising a single muscle or nerve, to the strong arms of one or more attendants. The chances of injury would certainly be greater under the latter, and the interference with personal liberty quite as decided.

I do not see that we can take exception to what Dr. Bucknill has said of us on the use of restraint, for this is universal practice and

the members of the Association are on record. His statements of facts are not contradicted, but his inferences and arguments are proper topics of criticism and discussion. I have seen nothing in the British journals which would indicate that he had given any false impressions of our practice on this point. We ought not to confound what he has said, through the columns of the *Lancet*, with what that journal has said editorally and through its self-constituted commission. Indeed Dr. Bucknill defended us from the false statements of the *Lancet*, and the sensational and offensive attack of the *Lancet's* Commissioner, J. Mortimer Granville, M. D. He belongs to a class of writers and self-constituted alienists, real mischief makers, the men who have zeal without knowledge, and whose lack of experience leads them to exaggerate, misinterpret, misapply and mix up the ideas of others; mere *doctrinaires* who are incompetent to weigh either facts or theories, which must be judged of under the illumination of clinical observation.

The *Lancet* believing itself a sort of umpire, assailed Dr. Bucknill for not obtaining an accident list of American institutions. Dr. Bucknill might have asked any superintendent on this point, and he would have received full information, but he did not happen to do so. The fact is he was not a "*Lancet* Commissioner" to "report," but only a visitor. We keep an account of all accidents, and record them in the history of the cases in which they occur, as I suppose all Institutions do. We are not to hold the profession of Great Britain, much less those of the specialty, responsible for such utterances as were contained in the *Lancet*, any more than we are to hold ourselves responsible to the public, for the misrepresentations and platitudes of a similar class of would-be-alienists in our own country. These writers, as I have already intimated, and as you all know, have little or no experience on the topics which they undertake to discuss, and what they say is too often only ill-digested comprehension of the labors of others, distortions of truth, and comparisons of results, the determining data of which are quite beyond their knowledge.

Another point of difference between British and American asylums mentioned, is that we are without diet tables. This is true, and few, if any, American institutions have published diet lists, but this can not be taken as evidence of poor living. If our British brethren will look at the item of "provisions" they will be satisfied that we live well enough as a general thing. Unfortunately in some of the asylums under the care of municipal authorities, and among, these those of New York City, which Dr. Bucknill visited,

insufficiency in quantity and quality of food has, particularly in the past, been a well-grounded complaint, but even there it will compare favorably with some of the meager and coarse dietaries I have noticed in the printed foreign reports. An English gentleman passing through the wards at Utica at the dinner hour, noticing butter seemed surprised and said, "Do you give butter to your patients in this way?" I replied, "Yes, but you see we do not give beer as you do. Our people prefer butter, your people prefer beer." Now all this is custom, and disparaging comparisons are unnecessary. Gentlemen, we shall work out the problems before us if we fail not to rest on experience.

Dr. CURWEN. I do not know that I have anything special to say. I said all I desired to say in my last annual report, and I do not know that I can add to that or express it better than I did then. There seems to be a misconception on one point. These cases requiring restraint are like an epidemic; they come periodically. Month after month may roll round, and very few, if any, cases will be found requiring any restraint whatever, and then there will be a period when quite a number will need to be restrained to prevent injury to themselves or others, or extreme destruction of clothing or furniture. That has been my experience, and I suppose others have had similar experience. In the discussions on this subject, this fact seems to have been entirely overlooked. It reminds me of a saying among the surgeons of the Pennsylvania Hospital, that if a man came in with a broken arm, a number more of the same kind would be sure to follow in rapid succession, and in the same way with other injuries. A gentleman may go through the wards of all the Hospitals for the Insane in this country, and scarcely find any restraint applied, often none, in any of them; but if he will repeat the visit in a few months he may see from three to six in each who seem for the time, often a very short time, absolutely to require it. If he forms his opinion from the observations of his first visit, he may be led to think that restraint can be dispensed with altogether, but in this, as in other matters, more extended observation would lead him to modify that opinion. The proportion under restraint at any one time will rarely exceed from three to six in any well regulated hospital. I use it only as a remedial means, that is what it is, and only that.

Dr. BLACK, Virginia. I heartily agree with the sentiment expressed in the paper read by Dr. Grissom, and the remarks made by Dr. Gray. I shou'd regard the use of restraint in the same light that I would that of medicine, or anything else that would

secure control and save my patients from danger. I have adopted this plan, and expect to continue it until I find some good reason for changing it.

Dr. KENAN, Georgia. It is useless to occupy the time of this Association, but I must say in relation to mechanical restraint that we use it whenever we deem it necessary. I do not think we have enough of it in our Institution, or that it has arrived at that perfection which I hope to see. I am but a novice in the treatment of insanity, but think I can convince any gentleman here without much oratory that it would not do for us to do away with restraint. We have some powerful insane negroes, and we could not find *suitable* attendants to hold them, and if our professional brother across the water could hold, or have held, even one negro man I have in my mind's eye for one hour in a summer day I will yield the palm to him.

Dr. CHIPLEY, Ohio. I have no desire to discuss this question, or to enter into an argument either for or against it. I would much rather give my time to those gentlemen who have found it practicable to dispense with restraint for the insane. I have been exceedingly desirous to limit the application of physical restraint as much as possible. So that with me the question is not whether restraint can be avoided altogether, but to what extent it shall be practiced, and upon what principle that practice is to be based. I have found it impracticable to avoid it altogether; but I never employ restraint except in behalf of the patient, and where the interest or welfare of the patient is considered. The ease or convenience of the attendant is never consulted, and then I make the restraint as brief as possible. If I find the patient is determined to refuse food I put him under restraint, and force the food into him. If I find another patient exhausting his vitality by standing up or pacing the room, and never lying down, I apply restraint to compel a horizontal position, making him as comfortable as possible, and saving the vitality if I can. I think restraint is to be determined upon in every case, each for itself, with the patient's welfare in view, upon one general principle—to avoid mechanical restraint as far as possible, but never to neglect it if the comfort and welfare of the patient require such means. I would rather hear from other gentlemen who have found it practicable to avoid mechanical restraint altogether, and yet do full justice in all cases of insanity, because if it can be done I want to learn the way.

Dr. GUNDRY, Ohio. I confess myself to have experienced a great deal of regret at hearing that paper. I will speak frankly

what I have to say. I do not disagree with so many of the conclusions, but there are some subjects upon which I think silence is very much better than constant remonstrance. There are a few aspects, looking at the question of the paper, theoretically and practically. Theoretically, I do not suppose you will find many men disagreeing. Dr. Bucknill says in one of his letters: "I can imagine a case in which I could conceive it necessary to bind up a man in order to restrain him, but I never saw such a case." I do not quote the exact words. I think that covers the whole point—that there are cases in which he might think it necessary to use restraint—I mean mechanical restraint—restraint by which the limbs are confined by mechanical means. Practically, I think a man will be tolerably bold who will say that he can not do without it. I think if the determination is made to do without it, it can be, and the success or want of success will depend a great deal upon the idiosyncracies of the people by whom you are surrounded, and also the tact and influence which those connected with the institution will have. Now, I use very little restraint—have used only the camisole and long sleeves since I have been in the Hospital. I have used them when I thought proper. I have experimented for the last year, and for a period of about nine months before I left Athens I had not to use restraint. I do not mean to say I will not use it; but I do say that restraint is the exception in the treatment of patients. I therefore very much regret the appearance of a paper like this, which defends it on such broad grounds as would seem to place it where it may be called the corner-stone of our specialty.

I look upon restraint in the same way as the surgeon looks upon amputation—it is sometimes necessary to save life. Twenty years ago he would amputate where he now resects. So we have diminished the number of cases where we resort to restraint. We survey our mistakes year by year, and our failures. We are sure to remember our successes. We are gradually broadening in our experience and broadening in our sense of trust of our fellows. You can not say that accidents are the result of one system or the other. In England they are obliged to keep a list of accidents, to be exhibited to such visitors as desire to deduce facts from them. There is no such record here, and Dr. Bucknill declares that this is wanted here. Accidents are not prevented until we can show a properly authenticated list of accidents that do actually occur, and that is all, I suppose, he means to say. In certain situations they may be attributed to non-restraint, and in others to restraint.

As Dr. Curwen has properly said, it is like epidemics; it seems to me that at times these waves influence hospitals—the wave of homicidal propensity or of suicidal impulse. These things influence communities inside as well as outside, and then the problem is presented to the physician's mind. What are you to do to prevent it? No theory will account for his practice at that time; he has to take every person on his own individual basis. I have been just as careful as I can be so that I may not be misunderstood by any of you in my views. It is a subject I very much regret to speak upon, and a subject I dislike to refer to any more than is possible. I think we ought to avoid the use of restraint just as much as possible. I think, on the other hand, we ought to exhaust every resource when necessary, and not allow pride to stand in the way of doing anything for our patients. Then I do not think that we shall err very much in the treatment of the cases that come up. But I do object to any going away with the feeling that restraint is the corner stone of treatment, and forthwith go home, not to see how much they can lessen it, but to use it more than before. This is what I protest against.

Dr. GRAY. I wish to correct Dr. Gundry. I spoke of the criticism about accidents in the *Lancet*, not by Dr. Bucknill. Nobody considers restraint a corner-stone of treatment as far as I am aware.

Dr. GUNDRY. If I understand rightly, the letters appeared, then the *Lancet* made attacks upon us while Dr. Bucknill defended, and then the article appeared here in the JOURNAL OF INSANITY, and therefore they were referred to in this way. It is very unfortunate that Dr. Bucknill did not see more of our hospitals, for some that he did see we would ourselves unite in condemning quite as strongly as he did. He saw very few institutions; he passed by one of the largest; that ought not to have been, as he would have seen a very great contradiction to some of his remarks. This is very unfortunate, but I do think the Doctor sat down with a right-minded purpose, and I hardly think we should attribute improper motives.

Dr. CHIPLEY. Some of the remarks made would seem to be based on the idea that some American superintendents consider mechanical restraint as the corner-stone of treatment. I do not think this Dr. Bucknill's idea, or that such construction of his language would be just. From what he said, however, some might infer that certain physicians do regard it as a corner-stone. I know that American superintendents generally regard it as a necessary evil, and resort to it only when the choice lies between manual and mechanical restraint.

Dr. KENAN. Of course I met this question as a novice, but upon the broad idea that these things were resorted to after all other things had failed. In the absence of my superintendent I feel called upon to say that we apply all other means assiduously, until we come to the conclusion that these are all the means left, then we try, as Dr. Chipley remarked, the simplest form of restraint to suit the case, and that only for as limited a time as possible.

The hour of adjournment having arrived the Association adjourned to 8 P. M.

The Association spent the afternoon in an excursion down the Mississippi in a large steamboat provided by Captain I. S. Scudder.

The Association was called to order at 8 P. M. by the Vice-President, Dr. Walker. The Association resumed the discussion of Dr. Grissom's paper.

Dr. STRONG, Ohio. Mr. President, this subject of restraint has been already so thoroughly and exhaustively discussed that I can add nothing. In fact, as presented here I feel that there is but one side to the question. I must cordially and emphatically endorse the views of Dr. Grissom on this subject. I differ from my worthy friend, Dr. Gundry, in what he has said, especially on one point; it is that he regretted profoundly that the subject had come up, and that it was being agitated at this time. I rejoice that the subject is up for discussion. If we are wrong let us seek light that we may become right, if right let us vindicate ourselves, and show that the attacks made by Dr. Bucknill are unjust. He has virtually charged cruelty and incompetency against some of the most worthy men of our Association. He has arrived at very wide and sweeping conclusions, which are wholly unwarranted from his premises, and I cannot see why we should seek to keep this subject from discussion. The Association would be certainly culpable if it did not seek the present opportunity to vindicate itself from the attacks of Dr. Bucknill. What do we propose? We propose to be guided by the peculiarities of each case. We do not propose to say that a certain case must be treated because

a certain other case *was*, but because the particular case in hand requires it. While, as before stated, I can add nothing special to this discussion, I feel it is due to us that we place ourselves right before the country on this subject of restraint. There is a point connected with this matter that must not be overlooked. We never hear *total* non-restraint advocated. No one will deny but that there are cases where restraint is absolutely necessary. I have never met a man but would concede that there were cases where restraint was indispensable, and just as necessary, under some circumstances, as to bandage and splint a fractured limb. It seems to me that they concede very much when they acknowledge that in certain contingencies it is necessary and vital to employ restraint. When they reach this point they make a very grave confession, so much so that their position becomes weak and untenable. Viewed in this light I can see but one side to this question. We are to exercise due discrimination in the employment of restraint, and to use it for the protection of all concerned, when necessary. We are to use it as a means to a certain end, to use it without abusing it. By so doing we do not ignore, but rather recognize the great law of kindness which underlies the treatment of the insane. Restraint with a view to protection is justified by every principle of reason and humanity. The insane themselves may absolutely require it, and the general welfare of a hospital may demand it. In this, as in all kindred matters, the highest benevolence contemplates the greatest good to the greatest number. Judicious restraint, applied with due discrimination and wisdom, to occasional cases is a practice, in my judgment, which can never be safely abandoned by those who have charge of the insane.

It is to be regretted that the name and fame of Dr. Bucknill has become thus unfortunately associated. It is unfortunate that a blot has appeared on a single page of his history. For one I have always felt that Dr. Bucknill was to be revered and honored for his high attainments and useful labors in our specialty. I think so still. I think he has done great injustice to us, and trust that the time will come when he will realize his mistake, and perhaps acknowledge the great error he has fallen into in regard to restraint or mechanical protection, as practiced by American superintendents of hospitals for the insane.

Dr. Boughton, Wisconsin. I am quite sure that there is no division of opinion among us in regard to mechanical protection. It has occurred to me that sometimes in order to form a proper estimate of any given policy, it is well to inquire what has led to

that policy, and in order to form a proper estimate of the policy now prevailing in English institutions, it may be well to inquire what has led to that policy of so called non-restraint.

I think we are warranted in saying that the protests of the people against past abuses have driven the managers of these institutions into a field they never would otherwise have entered. We all know the early history of British hospitals, the abuses practiced, severity of treatment, discomfort of quarters, the poor and insufficient food and prison-like restraint universally practiced. The people remonstrated, sensational writers like Charles Read have added to the distrust, so that their institutions have been compelled to relinquish restraint and retreat to the opposite side of the field. The history of this subject is much like the history of homœopathy. When physicians had bled, purged and otherwise exhausted their patients beyond the hope of recovery, for a series of years to a degree, that people became afraid of the doctors, (and upon this prejudice rested the success of homœopathy) the frightened doctors said we have gone too far, forgive us and we will never give any more medicine, the dose shall be so infinitesimally small that it wont hurt anyone. So has been the history of restraint for the insane. Is not this just the position of the advocates of non-restraint? Of course this does not reflect upon the present managers of English institutions for the insane, that the crimes of the fathers are visited upon the children to the third and fourth generation. It is simply a case of excessive reaction of popular feeling. There is no such reactionary feeling in this country, and there has never been cause for it, therefore England is no example for us to follow in the matter of restraint. We are free to choose the best methods of control without being coerced by outraged public opinion. While I am ready to believe that English institutions could not now be well managed otherwise than they are in this regard, there is no reason why *we* should occupy this ground, and refrain from such restraint as we are satisfied is necessary for the best good of our patients. The insane have always been well treated in American institutions. Public sentiment has never risen against us and forced us into a line of action that we would not have freely chosen on its merits alone. It may be, however, that there is one work that we should give more attention to, and that is, to cultivate a feeling of public confidence by throwing open our wards to an intelligent public, not concealing any method of restraint and making the public feel that we have nothing to conceal.

Dr. Kempster, Wisconsin. I do not know that I have anything new to offer upon this subject, and can merely express my own convictions. It seems to me that Dr. Bucknill has placed American institutions in a false light, and if it were not that it is a duty we owe to ourselves to correct the error, it seems to me that this discussion would be entirely uncalled for, because we seem to be unanimous as to the method of treatment to be used in violent cases, so far as restraint is concerned. Persons who are familiar with our views have led the public to believe that restraint is the corner-stone upon which we rest. It does not so strike me, for I believe there is not a superintendent in the United States who relies implicitly on any particular mode of treatment. If so, I have yet to meet him; neither have I met a superintendent who is in favor of universal non-restraint. On the contrary, we have repeatedly and invariably said that restraint was used only as a last resort, in order to arrive at the best good of the person concerned.

Some time ago, Mr. President, you will recollect the fact that a pamphlet was sent pretty generally through the country by a gentleman of New York State, who, by the way, is not now, and has never been connected with a hospital for insane, but who had made a brief visit to Europe, and published his views relative to restraint. In it he stated, among other things, that we were using restraint freely, and our brethren abroad not at all. In order to determine the amount of restraint used in my Hospital, I was particularly careful to go over the rolls of the institutions where every case of restraint is noted to ascertain the percentage of restraint which we had used for twelve months. I found that it was less than one per cent., and we have the average number of cases of insanity in which restraint has been found necessary, by older and better heads than mine. This includes restraint of all kinds—camisoles, muffs and covered beds, and the amount, I say, was less than one per cent. in one year. It seems to me, Mr. President, with the experience that I have had in this particular department, that restraint or mechanical protection—call it what you choose—used judiciously and prescribed, as all remedies are prescribed, by a physician, is a benefit to the persons upon whom it is applied. It seems to me to be a proper thing to say so. I should very much dislike to say publicly or privately, that there is no restraint used in the Institution with which I am connected, and then once in a while have one of those awkward things come out, which I find recorded in the English Blue-book, which we have had distributed here this evening. Indeed here we have before us in this Report

gentlemen who declare before the world, that they have no restraint at all; and yet we find when we look over their book, that they do have restraint, and, as I conceive, in one particular, an infinitely worse form than that used in American institutions. I refer to manual restraint. In order to test the relative merits of each form of restraint, manual and mechanical, I determined to put it to a practical test, and I selected a number of cases that would require the manual form of restraint if no other restraint was used. Then I placed three or four attendants with these patients in a ward and allowed them to test the efficacy of the vaunted manual system, so-called. I selected from my corps of attendants, those who had been longest in the house, those whom I could trust, those whom I knew were honest. It proved a failure. In one instance, a paroxysmal case, I took pains to stand by and watch the effect of manual restraint. I trust I may never witness such a struggle again. After more than an hour the patient was exhausted by his effort to get away from his attendants, and the instant he succeeded in getting away he would dash himself against the wall, or chair or floor. During similar paroxysms when the muff was placed on him and he was left alone he became quiet. My experiments satisfied me that manual restraint was more dangerous to the patient than mechanical. I do not wish to occupy the time of the Association by reciting other cases. I am an advocate of mechanical restraint where it becomes necessary to use it, and I use it in the same manner and for the same reason that I use remedies, that is, to relieve the patient, and in our Institution it is never applied unless directed by a physician.

Dr. Bartlett, Minnesota. I do not know, Mr. President, as I am prepared to add very much to the arguments that have been presented in this paper by Dr. Grissom. I was educated in a hospital where mechanical restraint was used, and I still use it, always, I think, with discretion. As from time to time I have estimated the percentage, I have always found it less than two per cent. and with a number of patients exceeding five hundred.

In regard to this matter of restraint, I am glad it has been divided into two parts. Mechanical restraint itself, I consider a very small part of it when it amounts to less than two per cent. But restraint in its broadest sense, I do consider the chief corner-stone of treatment. If not, why do we seek to protect our patients by strong walls, locked doors, guarded windows, and watchful attendants, where, as I understand it, we are to assume that the English have their windows and doors wide open. During a

friend's visitation he asked some of the superintendents if they left the patients at night with the windows unguarded, and they said it was their chief anxiety; and more or less every day they expected some would land on the ground with broken limbs. He thinks in the padded rooms, and in the rooms they gave to sleeping, the destruction of property was not great, because they did not allow them anything of any value, simply straw and ticks for very excited cases. But I suppose that we may argue here the year round and not change the views of a man who has formed an opinion and expressed it. Therefore, I see little use in further consuming the time of the Association in discussing this question of restraint, which I believe to be a measure of great good, as a rule, so far as it is practiced in this country.

Dr. STEVENS, Missouri. I do not think of anything additional bearing directly upon the question, but I wish it understood that I am decidedly in favor of mechanical restraint, as the matter appears to be understood by this body.

There is, however, after all another question intimately connected with this, the kind of men at the head of the institution. Where one man will be able to quiet his patients by moral suasion, another must resort to restraint of some kind. In the qualities and qualifications of those who are entrusted with power lies the secret of success in controlling the disorderly or violent insane. I would say then, that as a general rule, when moral suasion fails, it is far better to use mechanical restraint, than what we call manual restraint. Above all things in my own case, if I were insane, I would pray to be protected from the tender mercies of half a dozen attendants manipulating my head or my limbs.

Dr. HUGHES, Missouri. I am much in accord with the tenor of Dr. Grissom's excellent paper. Its title is well chosen. In some cases the problems of determining what kind of restraint should be employed is better solved by selecting protective mechanical, in preference to irritative physical, restraint. I have had cases that I preferred to restrain by these safe, silent and passive appliances, than to confide them to the tender mercies of overtasked, irritable attendants. In some instances it is far preferable to secure excitable patients in large chairs, by passing a strap about the waist. In corridors or balconies overlooking attractive landscapes or gardens, patients can be left to gesticulate with their free arms, and even kick at imaginary foes with untrammeled feet, and expend their fury of speech upon the empty air, or commune, in their own way, with the birds and

trees and flowers. This mode is milder than to pinion each particular limb, by the hands of special attendants, and have their presence intensify and prolong the excitement. Especially is this kind of restraint preferable with patients having delusions respecting individuals, and in whose minds delusions of disagreeable and irritative personal identity are readily excited. The question of restraint is a medical one, in which sentiment should not supplant experience. The advocates of manual restraint, whilst they are mainly correct in their endeavors to largely supplement personal supervision, and manual restraint for all other forms of control, are too radical in their aims to even be entirely successful. Insane, like rational minds, differ from each other and the kind of restraint best adapted to one does not always suit the other. As well seek to employ for all cases the same narcotic, as for all the same kind of restraint. Exclusive methods of restraint for the insane are likely to share the same fate as exclusive systems of medication. Mental tranquility being one object, we should employ the minimum of that kind of restraint least annoying to the individual patient.

Where practicable, and not detrimental, let all restraint and surveillance be withdrawn, but let us not call this method, so general in this country, a *system* of restraint. The conditions demanding restraint are too diverse for the exclusive employment of manual to the exclusion of mechanical restraint, which is part of the misnamed English system of non-restraint, which is still further a misnomer so long as our English brethren retain the wet-blanket wrappings for the excitable, and their asylums are constructed as at present. We honor Connolly for *reducing*, not abolishing restraint. Narrow transoms, narrow window sash, locks and keys, padded rooms and safely constructed buildings are still in use in England—standing reminders of the impracticability of abolishing all mechanical restraint—and will doubtless remain in mockery of the effort to construct an exclusive system for the control of all classes of the insane and christen it non-restraint.

Dr. Bauduy, Missouri. Mr. President, I deem it proper to occupy the time of this Association but a few moments. So much has been said upon the subject under discussion that there remains but very little to be added. In the year 1864, after having carefully perused Connolly's work, I became fully converted to his views, and caused every means of mechanical restraint in the Asylum with which I am connected to be destroyed. A very short time elapsed when several catastrophes occurred which owed their origin to

this cause. Not many more weeks passed when I made a most narrow escape from serious injury by a blow inflicted upon me by a maniac, which served as an *argumentum ad hominem* to make me reconsider my determination. One or two cases of suicide occurred; in every case no restraint was used. Since that time I have caused mechanical restraints to be applied in every case in which previous attempts at self-destruction had been made—that is to say, I have placed them in the muff until I was satisfied that there was no farther danger. Of two evils it is better to choose the lesser; therefore I consider it as necessary to use mechanical means of restraint as to employ medicinal measures. This applies to cases of melancholia as well as to those of masturbation, nymphomania, &c. My experience with this method of treatment has been such as to cause me to consider restraint as an indispensable means in the therapeutics of insanity, one which I should be unwilling to abandon.

I may also say, that in conversation with patients who have recovered under treatment I have never heard one comp'ain of the use of mechanical restraint; on the other hand, they frequently complain of the attendants. None of them have ever asked that mechanical restraint should be abolished from the Asylum. On the contrary, as mentioned by Maudsley and Esquirol, there are certain patients who fear the coming on of attacks of violence, and ask to have restraint applied before the outbreak. Then again it seems to me that the use of mechanical restraint is much better than personal control exercised by the hands of attendants. In cases of acute mania it appears to me that the attempt to keep a patient quiet by the combined strength of three or four persons must be fraught with danger. Indeed, I am satisfied that one death which I witnessed was caused by the attempt of the patient to free himself from the hands of the attendants who were trying to control him. I believe now that if the camisole had been placed upon him, instead of the hands of the nurses, he would be living to-night. The only forms of mechanical restraint used in St. Vincent's Institution are the camisole, muff and anklet. One of the great advantages of the use of these appliances is that patients can safely walk about the grounds, enjoy the fresh air and sunlight, and avoid the evils of close confinement.

After long reflection on the entire subject, and having once been on the other side of the question, I must say that experience has taught me that we can not dispense with mechanical restraint, and that the real question at issue is not as to their being absolutely

essential, but that abuse of this method of treatment is to be guarded against.

Dr. HINDE, Missouri. The time of the Association has been well occupied by members from Missouri, and yet, in the absence of our Superintendent, and seeing also that Dr. Catlett is absent from the hall, it is proper for me to state that the opinion and practice of our State Asylum at Fulton are entirely in accord with the able paper read by Dr. Grissom, and the views so forcibly expressed by Dr. Gray. Dr. Smith is a man of extraordinary kindness and forbearance, and whenever he directs the restraining apparatus to be placed upon a patient, you may be sure this is the *denier ressort.* The class of cases which we occasionally find it indispensably necessary to put under restraint are those dangerous to themselves and to others—a few cases of masturbators and such as can not otherwise be kept properly clothed.

Dr. FULLER, Nebraska. Mr. President and Gentlemen, the limited experience I have had in the care and treatment of the insane prohibits my taking any active part in the discussion of the subject in question. I wish, however, to give expression to the unqualified pleasure with which I listened to Dr. Grissom's article; a pleasure due not less to its rare literary merit than to the fact that the views it expressed harmonized with my own. The discussion of this question of the use of mechanical restraint in the treatment of the insane, as it has progressed so far, reminds me very much of other discussions I have heard and participated in, in other medical assemblies: questions as to whether it is proper to administer mercurials in certain cases, or whether their administration should be inhibited in all. I feel in regard to the one as I do in regard to the other. I should not in general practice, or in a hospital for the treatment of general diseases, administer mercurials to a pulmonic, nor indiscriminately to all patients. I should administer it, however, in certain syphilitic conditions, and in any cases requiring it.

Similarly, in my present position, I should not prescribe the camisole for a patient whose insanity manifested itself in a mild and harmless delusion, nor the insane indiscriminately; but in the very rare cases in which, in my judgment, mechanical restraint was indicated, I should prescribe it regardless of the theories of others. The whole question is simply one of the propriety of a certain course of medical treatment in particular cases, and as the opinions of medical men differ, each must act upon his own judgment. Dr. Gray, in his remarks, called our attention to the fact that he had frequently seen patients, in anticipation of a coming

paroxysm of mania, beg that the camisole be applied. I have myself seen similar cases, but I have never known a patient to ask for the immediate presence of attendants to control him in his violence.

Dr. CLARK, Ontario. I do not know that I have much more to add to what has been already said. I agree, to a great extent, with other gentlemen, as to the necessity of mechanical restraint in certain conditions, such as have been mentioned. I remember reading carefully, the articles in the *Lancet*, written by Dr. Bucknill, and I was struck at the time with the vigorous *Anglo Saxon* he expressed relative to asylums on this side of the Atlantic. I felt that though he had a right to do so, he had done it in an offensive way. His visits to asylums on this side of the ocean were of a transitory nature, therefore he did not examine the internal workings as he should have done, before indulging in these criticisms. He did not visit the asylum at Toronto, but he did the Beauport Asylum at Quebec. He went into the Asylum and found nobody there to wait on him; took a cursory view of its airing-court for a few minutes and went away. He wrote an article against it based solely on his Angelic visit at that time. I believe he wrote on other asylums in this country from insufficient data. He was not in a position to form a just opinion of the asylums visited. His complaint about not keeping an accident record was not just, for you remember that he made no particular enquiry in regard to the accidents, that might take place in the different asylums. On the other side of the Atlantic they are tabulated. I thought it would have been his place—as an important Commissioner in Lunacy—to make more enquiry about that matter before passing judgment. I presume there is no superintendent here but keeps a journal in which accidents are recorded—the kind of accidents—how brought about—and the evidence of those who witnessed them when they happened. His conclusion, that because some of the patients appeared somewhat emaciated and pale, therefore they were not well fed, was a rapid deduction from very bad premises, because many patients are emaciated from other causes than not having enough to eat. It does not properly follow that they were not well fed, because thin and poor in flesh. These things struck me at the time I read the report; and my opinion has been strengthened since hearing the evidence here given in regard to the mode of treating patients in the United States. If I had my own choice in respect to the mode of restraint, I would prefer a camisole, a muff, or a pair of mitts, put upon me than to have a supervisor and

attendants holding me. There is a spirit of resistance among ourselves to human force, and this resistance is evident also among the insane, that will not be exercised against inanimate objects. I feel that I would prefer the latter to the former. The one has a changeable disposition, which the other has not. Between the living and the dead restraint, I prefer the latter as far as comfort is concerned.

I will give two illustrations of this in patients. In Toronto Asylum is a highly educated and intelligent woman of good antecedents, affected with religious melancholy. She went out in the lawn a few days ago, and found a piece of broken bottle. Suddenly the idea of committing suicide took possession of her and she made ugly gashes in her neck and arms with it. She told me that almost immediately afterwards, that insane tendency ceased, and she came in sorry for what she did, and said that in future she would tell me beforehand about it. In less than forty-eight hours afterwards she asked for restraint, and I asked her whether she would prefer one or two of the attendants or have the muffs put on. She chose the muff, and she was restrained in this way accordingly. Ever since she has told us of the premonitory symptoms, and we always put the muff on. Here is one example among many of a person of intelligence, and she prefers the muff to attendants. I have a negro in charge who is afflicted with attacks of mania, and at such times he asks that restraint be put on. When wristlets are on he will walk in the corridor, if not on he says he will kill somebody. He chooses these and becomes furious at attendants. I might give many instances of the same kind.

I might tell you farther, gentlemen, I have reason to believe that in many of these asylums, which show reports of non-restraint, (I have it from some of the officers of such) that restraint is winked at when indulged in by subordinates, and yet they publish reports of the success of non-restraint. Whether you put on the camisole, or put a patient under the power of drugs it does not matter; both are restraints and I prefer the mechanical restraint as more conducive to recovery. In some asylums in my own country, (Scotland) patients are said to be allowed to go out and come in as they please. I have heard though, that in such asylums drugs are largely used, so that the most maniacal can not go out, not being inclined to do so. I prefer to be free, open and candid, in these matters, rather than to desire to ride on a popular wave, and at the same time, behind the door allow restraint to be used. I have given mechanical retraint a full trial under strict surveil-

lance, and I endorse freely what has been said of its use in extreme cases, as part of treatment towards recovery.

Dr. Buck, Ontario. I have no desire, Mr. President, to occupy the time of this meeting with any remarks of mine upon this subject, for I could add nothing to what has already been so fully and well said both by Dr. Grissom in his able paper and by those who have preceded me in the discussion of it. But I feel that it is my duty as a member of this Association to express my views upon this important point in the management of the insane which is now before us. It seems to me that we are all, at every moment of our lives, living under restraint. That with sane men who are not criminals this restraint is represented by reason and conscience. The members of the unfortunate class with whom we have to deal are deprived by their disease of these restraints, and therefore they are sent to asylums. The asylum itself with its guarded windows, locked doors and trained attendants for both day and night is, of course, a form of restraint, and in many cases this is all the restraint that is required.

The ideal mode of management of this class of persons would no doubt be to restore the perverted conscience and disturbed reason to their healthy condition; and I fancy we none of us ever forget for a moment that that is the end to be attained, or at least sought to be attained, and that all forms of restraint, and all other modes of treatment, have this for their ultimate object; but until this object can be attained some other mode of restraint over and above these mentioned must in the worst cases be employed, and the only question is what mode of restraint shall be adopted? We have only three forms at our disposal, viz: the hands of attendants, drugs and the various forms of mechanical restraint. Without denying that one of the two first may be sometimes better than the last named, I have no hesitation in stating it as my firm conviction that in the vast majority of cases the third mode is the least harassing at the time to the patient, is the most efficient and is the best mode of restraint in view of the end we must always have before our minds, the ultimate restoration of the patient to a sound mind.

Dr. Grissom. In concluding this debate I can add nothing to what has been so well said by others. It seems to me that the subject is quite exhausted, and so far as I have been able to apprehend it the discussion has developed no real difference of opinion. My friend, Dr. Gundry, admits all that I claim in favor of these protective measures as a principle. No one regards them other-

wise than as means of treatment. The *necessity* of *any* treatment of insanity is an evil just as insanity itself is a misfortune. No one goes beyond me in admiration for the services of the distinguished humanitarian whose views have been canvassed in the paper under discussion, but I regard his position upon this subject as exceedingly erroneous, and that it ought to be met by decided opinion.

Dr. WALKER. I wish simply to say in justice to our distinguished friend, Dr. Bucknill, what some have either forgotten or did not know, that he did us the full justice to say that he did not believe that mechanical restraint was used in any of our asylums for the purpose of lessening the labor of our attendants, nor did he believe that it was allowed, except under the directions of the attending physicians, and, further, that he thought it our belief that it was better for the patient.

Dr. CURWEN. A remark of Dr. Walker brings to my mind the fact that I received a letter from Dr. Bucknill, in which he said that upon his motion a resolution had been adopted by the British Association in relation to Dr. Nichols, and that the secretary had been directed to forward a copy to the secretary of the Association, but said resolution has never been received.

Dr. GRAY. I received a printed a copy of it, and it was mentioned in the JOURNAL OF INSANITY.

Dr. CURWEN. I have never received the usual official notice.

The VICE PRESIDENT. The next paper for discussion is that of Dr. Ray, on "The Cost of the Construction of Hospitals for the Insane."

Dr. Grissom moved to reconsider the vote by which Dr. Ray's paper was ordered to be printed, which was agreed to, and the original motion was then reconsidered, and the direction to print was rescinded, and the same disposition was also made of the paper read by Dr. McFarland, and the papers were laid on the table.

Dr. GUNDRY. One of the questions submitted by Dr. Ray is the difficult one that seems to be arising in communities, in relation to building institutions properly for the insane, and in unison with the public sentiment around. The Doctor thinks that objections have arisen to building proper institutions, giving his reasons why these opinions have arisen and how they can be overcome. I sup-

pose that none of us can dispute the fact that there is a sort of public objection to building institutions for the insane, on account of their cost. I do not think it can be said there is a hostile feeling towards building institutions. I do not think that the wave of public opinion has risen so high as not to discriminate between the objection of excessive cost and the rejection of the whole matter. I can answer this, I think, for the State I represent. I have not found either of the political parties arrayed against the building of proper institutions. Of course, there are criticisms as to the manner of building, and as to how much money is to be applied. At an earlier day, when comparatively few had to be provided for, the question was easier of solution. Institutions were fewer, and materials and labor cheap, and the buildings were substantial, but most of the older buildings have regard to architectural character, but perhaps some are after the factory fashion, as Dr. Ray says. Dr. Ray gives certain reasons why a feeling has sprung up, and those he mentions I quite fully concur in, but it strikes me he omitted one very strong one, and that is the tendency of the people for fine buildings. I do not think the professional gentlemen having the directions of building themselves, have usually commenced these fine structures, but in every town in which they have been built, if any public building has been erected there before, it has been a fine, ornate public building. Those who have traveled in the West remember that the plain court-houses have given way to palatial buildings. Go further and notice the luxurious private houses, compared with what they were twenty or thirty years ago. Now the building of hospitals does not devolve upon us alone; the architects are encouraged to erect these great buildings and to put on finish of the highest style, and this in time will die out. Furthermore, there is no question that great expense has been incurred in the selection of improper sites, and the work necessary to make up the deficiency, not the work necessary to the building, but to keep the building running after it is finished, has greatly added to this expense.

Then the fashion has grown up of taking security bonds, of taking the lowest bidder, in other words, taking bonds as security, rather than the character of the man doing the work. In our State, as I suppose it is elsewhere, all contracts are given to the lowest bidder with good security. If he can get good names as his security, they are never brought to account afterwards, instead of doing what business men would do, who would take the character of the man rather than the bonds he might offer. If a

man is likely to lose he gives bonds; and if it is impossible to make it up in extra work he will slight what he does. These are reasons why buildings cost more than they are designed to cost. Another question comes up, and that is that all classes of the insane shall be taken care of whether rich or poor, chronic or acute, and the confessed inability of the buildings already erected or building to supply that want, either in the present or in the future; and the question arises in the public mind whether cheaper buildings can not be substituted; and an answer can be given very easily that they can; that the hospitals now building are necessary for the proper treatment of recent cases, and any additional structures can be made which may cheapen the whole matter. I think where we have one well-appointed building, it is better to add accessories to it which can be planned as necessary; those who are longest insane will require less care, and they can be drafted out, and the main building relieved. The refractory patients are those that ought to be nearest the best care, they ought not to be away from the main building. These ways cheapen in any sense, because whether you add wards to the asylum or buildings outside, you dispense with much of the cost. In that way probably we may meet the demand, and at the same time not do anything which would harm the interests of the patient.

While saying this, I may here add, that is extending the number of cases over what should be the proper care of one person. I admit it, I am not talking now of a hospital in a community over which I would have the care and control. I am simply trying to reconcile what are actual necessities in the community with regard to essentials so as to do the best by all of them. If I could plan accommodations for a whole State, I would provide small districts and a suitable asylum for each; but as affairs are running along that can not be done, and we have to give up somewhat to public sentiment and to the manner of legislation.

I do not think if we resolutely push on, do the best we can, and get the buildings in our respective States to honestly fulfill the purposes for which they are built, bringing in all the classes that ought to be brought in, making no distinction, doing our whole duty to the community, we will find serious opposition from the people when they thoroughly understand it.

On motion of Dr. Gray, it was unanimously resolved that Dr. W. A. F. Browne, of Dumfries, Scotland, late Commissioner in Lunacy, be elected an Honorary Member of this Association

The minutes of the meetings of the day were then read, and on motion, the Association adjourned to 10 A. M.

JUNE 1, 1877.

The Association was called to order at 10 A. M., by the President.

Dr. C. F. MacDonald, as one of the Committee on Chloral, made a Report* on the use of that drug.

Dr. R. M. Buck then read a paper on the "Functions of the Great Sympathetic,"† at the conclusion of which, on motion, a recess was taken for ten minutes.

On re-assembling, Dr. Catlett read a paper on "Frequent Association of Disease of the Ear with Insanity,"‡ the discussion of which was postponed for the present.

On motion, the Association adjourned to 8 P. M.

The Association spent the afternoon in visiting the City Asylum for the Insane and other charitable institutions under the care of the city.

The Association was called to order at 8:30 P. M., by the President.

Dr. NICHOLS. Having been absent from the session last evening when the discussion of Dr. Grissom's paper was closed, I desire to occupy a few moments of your time, lest I might seem to evade the responsibility of expressing my views in relation to the question, upon which we are somewhat at issue with our brethren on the other side of the water.

I wish, first, to acknowledge that a so-called investigation of the Hospital under my charge, was the indirect cause of certain unprofessional, unmanly, unfounded and unjust censures of the management of American Institutions for the Insane, that appeared in the *London Lancet* a year or so ago, and to express my regret

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* Will appear in the January Number.

† Appears in this Number of this JOURNAL.

‡ Published in the July number of the AMERICAN JOURNAL OF INSANITY.

that such was the case. Then I wish to say in this public manner that I feel deeply grateful to Dr. Bucknill for his prompt and honorable defense, not only of myself, but, what is much more important, of the brethren that make up the specialty in this country. You will remember that Dr. Bucknill says, in his defense of us, that while our practice in the use of mechanical restraint differs very materially, as he believes, from theirs in Great Britain, he distinctly credits us with elevated and humane purposes in the course we pursue in this matter. Now I will say that I agree, in the main, with the views of the paper which relate to the actual use of restraint in America, in the treatment of the insane. In a conversation with Dr. Grissom after he had read his paper, I said to him, that if I had undertaken to prepare a paper upon this subject, I should have treated of the principles that underlie the use of restraint and of their application in practice, and said less of persons and their inconsistencies in this matter, than he has done. I do not wish to be understood to say, however, that a proper self-respect does not justify and even call for all the personalities of the paper; but while I might not have entered into that branch of the subject as fully as he has done, I might, to that extent at least, have done it less full justice than he has.

The substantial question at issue has presented itself to my mind in this way. In Great Britain, half a century ago and earlier, the insane were restrained by chains and irons, and treated in a very brutal manner. That manner of treating the insane has, most happily, been abandoned, and in fighting against terrible abuses, having the sanction of general custom, and vaunting the better way and the part that their leaders have taken in the great reform, the psychologists of that country have worked themselves to the opposite extreme. In doing so, as I think, they have exhibited a common human tendency. Most reformers have done the same thing. The people of Great Britain are natural leaders, and they wish to lead us in this matter, and think it a little strange that we hesitate to follow them, but not having to contend against one extreme, we see no reason why we should go to the other. We prefer to follow that golden mean in this matter, which we think is best for our patients. My last remark leads me to express my gratification that Dr. Grissom has given great prominence in his paper to the cardinal principle that requires the use of some mechanical restraint in the treatment of the insane, which is, that some use of such restraint is necessary to the protection and to the comfort and welfare of the patient. We believe that in a small

per cent. of our cases, the patient can be better protected against physical violence to himself or others, or his strength better husbanded, or his personal comfort better secured by the application of the camisole, or bed-strap or their equivalent. We think that our experience teaches us that in some cases such protection and comfort can not be as well attained by the hands of the attendants, however numerous and gentle, or in any other way, and we do not see why we should not be left to follow our own judgment in this matter, though some of our English brethren seem a little impatient with us because we persist in doing so. It is claimed by most Americans who have been abroad that our patients are more excited and destructive than English patients, and more frequently present the need of protection from exhaustion. I do not know how that is from personal observation, but if such a difference exists, it accounts in part, at least, for the difference in the views and practices of the two countries. It is a significant fact in my own experience that intelligent patients have much oftener complained to me of restraint by the hands of attendants, than of that effected by some mild mechanical means. In fact, convalescent patients have rarely condemned the mechanical restraint and coercion used in their treatment, while they have often complained that their wrists or arms were held too tightly, or that too much pressure was made upon different portions of their bodies, when it seemed to me that no more force was used than was necessary to prevent the patient from dashing about and bruising and exhausting himself; and if American patients were to decide this matter in the popular way in this country—that is, by vote—I think American practice, as compared with the English, would be approved "by a large majority."

As Dr. Gundry has remarked, much less mechanical restraint, and much less seclusion are now used in our institutions for the insane than were formerly resorted to in them. We have all been striving to improve our methods of treatment, until more attendants are allowed, and better facilities for exercise and diversion are provided in most institutions than formerly was the case, and we have the aid of more and better therapeutic agents than we formerly had, all of which enable us to dispense with restraint, without sacrificing the welfare of the patient, more frequently than we formerly could. Our constant aim should be, and I do not doubt that it will be, in the same direction, and I trust that we shall be able to still further reduce the proportion of cases in which restraint will be deemed advisable. It wounds my sense of human

dignity to see any patient under mechanical restraint, and the members of this benevolent Association will agree with me, I am sure, that mechanical restraint should never be applied to a patient or continued, except by direction of a competent medical officer, to accomplish a definite parpose in his most humane medical treatment, that in his (the physician's) judgment can not be as well effected in any other way. It is not possible, I think, to lay down any rule respecting the number of the inmates of an institution for the insane that may be properly placed under mechanical restraint. The practice of different institutions may properly differ, according to the character of the patients, and the facilities of treatment, but, in my judgment, the use of such vital sedatives, as tartar emetic and digitalis, in energetic doses, cold douches, or even very large nervous sedatives and hypnotics, is utterly inadmissible as substitutes for mechanical restraint.

You will remember, perhaps, that for some reason Dr. Bucknill expressed the opinion that it is incumbent on me to write a defense of American practice in the use of restraint. It has not been in my power to fulfill his expectations in this particular, and I thank Dr. Grissom for having made it unnecessary.

The next paper taken up for discussion was that of Dr. Bauduy, on "Unconscious Cerebration and Cerebral Localization."

Dr. KEMPSTER. Mr. President, out of respect to the distinguished gentleman who has taken pains to prepare a paper of this character, it seems to me hardly right to pass it by without discussion. While I consider the paper of Dr. Bauduy an able one, I do not look at the subject in precisely the same light that I understand the Doctor does. The subject is in its infancy, and we know but very little about the matter; and in judging of the experimental researches made by different individuals, we have to weigh very carefully the character of the persons who make the experiment. We find, for instance, one person makes a series of experiments upon the brain of a living animal and arrives at certain conclusions after very cautious experimentation. We find another man who says he removes the brain, slice by slice, until nearly all of it has been taken out of the cavity; fills the cavity with coagulated blood and applies an electric current, and he says that he obtains the same results as though he had applied an electrode directly to the convolutions. Here is a broad divergence. After going care-

fully over the ground, however, and making some of the experiments, I favor the doctrine of localization of the cerebral functions so far as I understand it, and my views are to some extent based upon pathological observation. Nowadays when a person is brought to us with aphasia, whatever form it may assume we are very apt to arrive at the conclusion that the function of a portion of the brain situated in the left hemisphere, and supplied by one of the branches of the middle cerebral artery, has been interfered with, and in a majority of cases, which have been tabulated by writers, we find that post-mortem examination has revealed the existence of disease in this locality, in more than five hundred cases, while there are only some twenty-five or thirty in which the disease has been found located elsewhere. I say we are apt to regard aphasia as in some way connected with disturbance of function of a portion of the left anterior hemisphere. It is known that in persons who have suffered amputation of a limb, or where a limb has been paralyzed for a number of years, that the nerve cells in that part of the cord which sends nerves to the paralyzed or amputated limb, become atrophied; the inference of course being that having no work to perform, whatever that work may have been, they indulge a process of degeneracy. Now if the nerve cells of the cord are thus affected, we may infer that nerve cells situated in the brain, especially in the particular locality of the brain wherein is said to reside the center for certain movements or functions, should also show evidences of atrophy, or some degenerative process, when the movement they are supposed to preside over, has for any great length of time been impaired or paralyzed.

M. Luys has recently presented to the Society of Biology four specimens, in which this very condition has been found—that is, he found changes of tissue in those portions of the brain which are said to preside over certain functions, after those functions have been impaired for a length of time.

I am not yet prepared to go to the same length that Ferrier, Hitzig and others have, but from some experiments I have made upon the living animal, and from reading and observation, I think there is a very decided ground for a belief in localization of function. We can not impugn the testimony of such a man as Batty Tuke, a most careful observer, who in his Morrisonian lectures delivered during 1874, alluded to some experiments he saw which were conducted by Dr. Ferrier. Opportunity was given to Dr. Tuke to make the closest examination, and in my estimation Dr. Tuke is not a man likely to be deceived, and he says that although

he is not in accord with Dr. Ferrier, relative to the explanations of the phenomena he witnessed, yet he vouches for the accuracy, I think he says, absolute accuracy of Dr. Ferrier's statements as to the fact, in every particular. Dr. Ferrier performed a series of these experiments before a number of medical gentlemen. Taking an animal under his arm he said, "Now, gentlemen, I will touch a certain part of a convolution, (naming it) and the animal will make a certain movement," (naming that) and in every particular the movement responded to the incitation.

Now such evidence can not be overthrown by mere assertion that the facts can not be as stated. We can not thus easily dispose of the testimony of such earnest men as we know these gentlemen to be. It must stand until some reason can be deduced showing that the animal would have made the same movement, if the excitation had been made at some other point or not at all, or that there were conditions present that would have affected the animal in the same way if no experiment had been made. Month after month the same results are produced following the same experiment. We can not upset an accumulation of testimony, made by some of the best men in our profession by mere assertion, and we can not impeach the testimony of such men or say it is not so. After all, the strongest evidence to my mind, is that furnished by pathological observation. While the cases are not numerous, they are sufficiently so to warrant rigid investigation in this department. I am not yet prepared to say that by applying electricity to a particular portion of a convolution of the brain we can determine precisely the action of a particular muscle. I do not think that we have arrived at any such results, nor am I aware that Dr. Ferrier says any such thing. It is a new subject, and we are on the threshold of it, and it seems to me that instead of drawing inferences, or making assertions based merely upon our belief, we should make observations of our own, and not rely wholly upon our faith. Indeed it is only in this way that we can hope to determine many points now undetermined. That a belief in the idea of localization of function is going to destroy belief in the existence of the soul, or open the way even for belief in the doctrine of Cabanis, or tends to materialism, is pure nonsense and wholly outside the question. I believe none the less in the existence of a soul and have no less faith in the existence of my Creator, in short, I am as firm a believer in what theologians call orthodoxy now, as I was before such questions were mooted. What we want is truth and truth shall not make ashamed.

Dr. CLARK, Ontario. I do not know, Mr. President, that I can say much on this paper, except, perhaps, that I have felt for some time in reading the works on our specialty, and the works of eminent physiologists, for the last few years, and also the writings of modern scientists, like those of Tyndall, Darwin, Huxley and others, that there is a tendency of late to run into materialism. We are hearing constantly of the phenomena of mind being called functions of the body. In other words, as the liver secretes bile and the kidneys urine, so the brain secretes all the manifestations of the mind. That means that when the body is destroyed, the cause is destroyed, and the effect also must come to an end. This view is the pronounced doctrine of the writings of nearly all the eminent specialists of to-day. A sentence used by Prof. Tyndall in his celebrated lecture at Dublin, is the very cream of the whole, in which he said "all matter has in it the power and potency of life."

Now, I wish to enter a dissent and protest against this standpoint, because it would end all responsibility; for as we have no power in our volition over the secretions or excretions of the different organs, in the same way neither can we have over the so called mental secretions or excretions, being the overflow of the functions of the brain. A stand should be taken by physiologists against this *unproven* doctrine. From the earliest ages of the world, Man, like the pendulum of a clock, has had a tendency to go to extremes, and those of you who have read such works as those of Descartes, Malebranche, Kant and Sir William Hamilton, know very well that the great struggle has been for ages in regard to the relationship between the mind and body. In spite of all the fine spun theories and attempts at the localization in defined sections of the phenomena of mind, locating in different parts of the body man's desires, affections, emotions, and even his moral judgments, yet such theorists do come to a point, beyond which is inference, supposition, darkness. After they have described the phenomena as far as physical appearances indicate, they come to a line of boundary at which they lay down hypotheses and draw deductions which may, or may not be correct, even from their own premises; but until we have something more than supposition, than probabilities, I, for one, am prepared to stand by the "good old way," viz, that the mind has an independent existence from the physical, and although affected by it, is not the resultant of it.

Theorists that would go in the face of what we ourselves know and feel, that would destroy all moral responsibility, that would

annihilate the great mind that controls our physical system to some extent, should produce something more tangible than the mere hypothesis that is given by them in opposition to mental experience. I am glad that such a paper has been brought up for discussion, because I think candidly that the time has come when the other side of the question should be heard, and the full truth established, when it will be seen that our minds, in our desires, affections and moral judgments are not merely functions of a physical frame, nor only manifestations of a living, objective sphinx. I do not feel like entering into this discussion now, but I think these materialists have taken a stand that they will find erroneous when a full and thorough investigation comes; beyond the spectrum, the microscope and scalpel there is an immortal essence that will not mix "with the clods of the valley."

Dr. KEMPSTER. Perhaps I did not make myself clear; so far as intellectual processes are concerned, so far as the operations of the mind extend, or that the process of reasoning is confined to a particular locality or convolution of the brain, I do not believe, and have no faith in localization of that kind. My remarks were made with special reference to motion, the localization of function so far as motion is concerned; beyond this I am not prepared to go, and do not wish to be understood as advocating the theory of localization of the mind.

The PRESIDENT. The Chair would be glad, and other members of the Association would also be glad to have those gentlemen who give most attention to the subject, and are best able to discuss it, express the inconsistency between a doctrine of faith and belief in the cerebral localization of the intellectual function and the doctrine so well expressed by Dr. Clark, that there is a mind behind all that. It is not quite clear to my mind that there is an inconsistency in the two doctrines.

Dr. STRONG. I am not prepared to express my views fully on this subject at the present time. I will say this, however, that the remarks of Dr. Kempster reflect the tendencies of my own views and convictions. I think, too, that we are just entering upon the threshold of this great subject, and when more fully understood it will be found that there is no real conflict between physiology and psychology. Until then, I think, there should be a broad tolerance of opinion among members in relation to the matter.

Dr. WALLACE, Texas. Mr. President, I am not prepared, and have no disposition to enter upon a discussion of the paper before the body. My purpose is simply to place myself upon record

with one of the gentlemen who has preceded me. I should dislike to suspect, after having belonged to what is regarded as an orthodox church for twenty-nine years, that I am in danger of drifting into a denial of the immortality of the soul and of moral responsibility. I certainly, however, believe, if I know what I believe, in what Dr. Clark characterizes and attempts to stigmatize as materialism, if I understand him. I as certainly at the same time believe in no such materialism as saps the foundation of moral accountability, and the prospect of immortality. One additional remark—whether or not I possess a soul destined to survive the dissolution of the body, whether or not I am a moral agent, to be held accountable for the acts done in the body, I know not; but if I know what I believe I do most certainly believe both; and for the former belief, after having been at some pains in looking up arguments that bear upon the subject, I have been able to find none more satisfactory to my understanding than that deduced from the doctrine which the gentleman would have us to believe, destroys both. If there is any argument that can be brought to bear upon this subject more convincing than that to be deduced from the doctrine of correlation of forces, and what the gentleman calls materialism, I know not where to look for it. What do we know of matter, or what that bug-bear of theologians, Mr. Tyndall, calls the potency of matter? In the language of Dr. Maudsley, "I know not why the Power which created matter and its properties should be thought not to have endowed it with the functions of reason, feeling and will, seeing whether we discover it to be so endowed or not, the mystery is equally incomprehensible to us, equally simple and easy to the Power which created matter and its properties." It is a subject upon which I have no disposition to dogmatize, but it does seem to me that such conception of the existence of the Soul is much more reasonable and quite as consonant with inspiration as taught in many places in Holy Scripture, notably in the fifteenth chapter of First Corinthians, in which, if it was not the purpose of the great Apostle to the Gentiles to so teach, it is difficult to see what he did intend. I need hardly add that if to believe in the localization of the functions of the brain be materialism, I am a materialist. That some of these functions are so localized, physiological and pathological investigations have demonstrated, and, if some, I see no reason why all should not be.

Dr. Howard, Missouri. As I did not enjoy the pleasure of hearing the whole of Dr. Bauduy's paper, I can not undertake to criticise it, but as the discussion appears to have taken rather a

metaphysical turn, and as some of the gentlemen present appear to regard the modern tendency to materialism as a blot upon the fair fame of Science, I will, with the permission of the Association, make one or two remarks on that subject. It seems to me that one of the chief difficulties in arriving at a definite conclusion concerning the relationship between mind and matter, arises from the too general disposition to regard matter as something coarse, as something essentially gross, like rock or clay, or the traditional "dust of the earth." That this view is very far from being the correct one, a moment's consideration will show. Take hydrogen, for instance, a gas so attenuated that we can not, except by experiments, detect its presence by the aid of any of our external senses. There can be nothing gross about such matter as this. Think how fine must be the particles of light, and how delicate the matter which composes the odor of the flower. How infinitely subtile must be the ether which floats in inter-stellar space.

Now it would appear to be a reasonable inference that, if in this universe of ours, where all is confessedly comparatively coarse, matter of such exceeding subtility exists, in that eternal world where "this corruption must put on incorruption, and this mortal must put on immortality," there are forms of matter relatively as much more subtile than sidereal ether, as the odor of a violet is more refined than common clay. To me there is nothing debasing in the thought that my mind is composed of such matter as this. In fact I can not conceive of mind or soul existing except as matter, and to this extent I feel no hesitation in styling myself a materialist. That cell action is capable of producing or generating mind we are not in a position at present to say; but that mind is dependent for its manifestations upon material conditions, we do most positively know; and that cell action can and does materially alter and modify its character there can be no reasonable doubt.

Dr. BOUGHTON, Wisconsin. Mr. President, I can not see that our belief or disbelief in the localization of the faculties of mind in the brain, either degrades or exalts our idea of mind or soul. Suppose we illustrate it in this way. If you go into your Chamber of Commerce you will find different men dealing in different articles, associated together, but not confining themselves to any particular locality—that is to say, there is no localization of function there. Go now to your State Capitol, and here you find distinct and definite localization. The Governor does business only in the Executive office; the Secretary of State in his office; the Attorney General in his, and so on; and these men are thereby better able to ex-

ercise their different functions. There is nothing degrading in this idea of localization, nor yet anything in the fact of non-localization in the first case. Just so, it seems to me, with the mind; localization or non-localization has nothing to do with the idea of exaltation or degradation in the scale of being. What is there degrading in the idea that certain functions of the mind are exercised by definite parts of the brain, and all forming a harmonious whole.

However, I think that speculation has given us all the light on the subject that it ever will, which is simply nothing. Actual physical demonstration is the thing to look at now. There occurs to me this evening a case in point, reported in the *Journal of Nervous and Mental Diseases*, by Dr. Hoy, of Racine, President of the Academy of Science, in Wisconsin. The case is briefly this. In October, 1842, Dr. Hoy was called to see James Lawson, aged eighteen. The patient had been kicked by a horse, causing fracture and depression of the superior angle of the left parietal bone. The patient was insensible. Trephining was resorted to, leaving an opening as large as a half dollar, and the wound was closed. Subsequent hæmorrhage necessitated the reopening of the wound, and when the brain was thus exposed, the dura-mater being intact, the Doctor tried repeatedly the effect of compression at the exposed point by the thumb, with this uniform result. A question was asked the boy, and during his answer firm compression was made at the exposed point by the thumb; the uniform result of repeated experiments was to arrest the answer instantly, and until the pressure was relieved, when the answer would be finished without any knowledge, on the part of the patient, that speech had at all been interrupted. This case presented a rare opportunity for experiment, and the result seems to point conclusively to the localization of vocal language in this region of the brain.

Dr. Bucke. I must say, Mr. President, that I am so much of a materialist, perhaps I ought to say so wicked, in the sense in which that word has been used here to-night, I have become so accustomed to that state of mind that I had forgotten that there are people who are not materialists in the same sense.

The way I look upon this subject is as follows: we have in the class of the vertebrates a nervous system built on a certain type, which type is retained throughout this class, though the nervous system itself varies greatly in bulk and complexity of structure as we ascend from the lower species of vertebrates to the higher; and corresponding to this increased size and to this more elaborate

structure, does the individual animal become more intelligent. From the lowest vertebrates to the highest apes, it is recognized by every one that, for such a nervous system you have such an amount of intelligence, that—whatever the link between them—the one tallies with and explains the other. So that when we compare two vertebrate animals, as for instance a pike and an ape, and find that one of them, the ape, has more intelligence than the other, (if you will allow me to call it intelligence, for I am on dangerous ground here) and then upon examination find that the ape has a larger and more elaborately formed brain than the pike, we say that that accounts for the ape's greater intelligence.

When we pass from the higher apes to man, we step over a vast chasm. Man surpasses the highest apes so much in his emotional nature and his intellect, that it is said that something is added to him that the apes have not got at all, something which puts him in a different category altogether from them. I do not know whether this is true or not. But how does the ape get his higher intelligence over and above the pike? How do you account for that? This is as long a step or longer than from the anthropoid apes to man, how do you explain it? Do you say that something exists outside the ape which prompts him, something which does not exist outside the pike, which at all events does not prompt it? That the pike's psychical nature is a function of its nervous system, but that the ape's psychical nature is partly a function of its nervous system and partly independent of it, partly belonging to it and partly outside of it? No, we don't say that. We examine the ape's brain and we find that it is larger than the pike's brain, we find that it contains far more nerve cells, and that its commissural fibres are more numerous, that it is in fact a larger and a better formed brain than the pike's, and we say that that explains the ape's higher psychical nature.

Now, man is more intelligent than the highest ape, incalculably more so, and his emotional nature is perhaps still more in advance of the ape's than is his intellect in advance of the ape's intellect. But man's brain is also a better organ than the ape's brain. It is larger, its cortical layer is thicker, the sulci are deeper, the commissural fibres are more numerous. Why not then say here as we said before, that the higher organ tallies with and explains the higher function? If we do not go outside the ape's organization to explain his mind, why go outside man's organization to explain his mind? At all events before doing so, let us be sure that it is necessary to do so. Before we go outside man's organization to

explain his psychology, let us be sure that the explanation does not exist in his organization. If it can be shown that the mind of man is more in advance of the ape's mind than the nervous system of man is in advance of the ape's nervous system, then I admit we shall have to look outside man's nervous system for an explanation of his mental and moral capabilities. But this has not yet been shown, and until it is shown, I for one, shall remain what some of my friends have called this evening, a materialist, a name which is scarcely terrible to me, since I am one of those, Mr. President, who do not revile their bodies for the sake of exalting their souls, but who believe that God made them both.

Dr. MacDonald. On account of the lateness of the hour, and the very full discussion that Dr. Bauduy's able and interesting paper has already received. I will not attempt to occupy the time and attention of the Association with any extended remarks of mine. I may say, however, that while listening to the remarks of some of the gentlemen preceding me, it occurred to me that it is hardly just to raise a hue and cry of "materialism," and to stigmatize those scientists who look to physiology and pathology as the great sources of a correct knowledge of all the mental conditions. Scientific men, when searching for truths, ought not to be sensitive, but unfortunately some are, and I have no doubt that medical men not infrequently refrain from the discussion of psychological questions, from a scientific standpoint, because they are not willing to be characterized as materialists, in the improper but common acceptation of that term. I am sure that the author of the paper did not intend to instigate a theological discussion, as I observed that he was careful to confine himself strictly to the scientific, and equally careful to avoid the theological aspect of the question.

Dr. Hughes. Mr. President, the hour is too late for one to attempt an expression of views on this subject. Whatever views may be held in the present state of our positive knowledge must be largely conjectural. As Ferrier truly says, "we are still only on the threshold of inquiry, and it may be questioned whether the time has yet arrived for an attempt to explain the mechanism and function of the brain, and though the time may seem to some as far off as ever; yet it is useful to review and systematize the knowledge we have acquired, if for no other reason than to show how much still remains to be conquered." These are modest words from a modest and moderate thinker. Let us not disparage the work of this class of men. They may be building more wisely than

we know at present, and are doing useful work, and much remains to be done. Investigators have thrown so much light upon the dark places in cerebral physiology and pathology that we may reasonably hope that some day all may be made plain. In sacred story, it was he of the patient spirit who asked the significant question, "who by searching can find out God?" and in reading the discussions and researches of the past ten years, the question has often obtruded itself upon my mind, "who by searching can find out mind?" Our search after mind may be equally fruitless, though we see manifestations of its existence, as we discern those of the Creator's presence—everywhere. True, with scalpel, electrodes, microscope and test-tube, we are daily approaching nearer the special dwelling-places of sensation, emotion and thought, and shall probably some day definitely locate them in the brain, but beyond them will still be the unknowable, unfathomable mind. I believe "there is a spirit in man," as Holy Writ attests, and that "the inspiration of the Almighty hath given him understanding." I believe also in the indestructibility of matter, and in the sense in which John Locke said, "something must have been from all eternity." I believe we shall exist as something to all eternity. It seems to me that the discussion as to whether recent investigations lead to the conclusion that what we have been accustomed to term spirit, with but a vague idea of its nature, is in reality but a subtile form of imperceptible matter, is fruitless. Let science go on with its researches, be the results what they may. If we believe in the immortality of man, what matters it if he exists forever as a subtile form of materiality; as well so as an incomprehensible, incorporeal nothing. Our immortality is not imperilled by these researches; whatever discoveries science may reveal, it can never extinguish the divine spark within, or efface from man's mentality the impress and image of his Creator. It seems to me as reasonable to concede the existence of ideational centers, as the demonstrated existence of motor centers in the brain, and that the proper place for ideational and emotional centers would be not far from the center of motion. The speech center has been pretty well established, both by physiological experiments, and localized disease, and cranial pressure.

Dr. Bauduy. Mr. President, now that this question has been so fully and so ably discussed by the different members of this Association, I shall be very brief in my reply, so as not to impose upon the indulgence of the gentlemen present at so late an hour of the night. It is a universally admitted fact, which I suppose no phy-

sician will deny, that all exercise of functional activity is invariably accompanied with a corresponding molecular disintegration of tissue in the organ exercised—a fact in physiology which is indisputable. I wish to state it most emphatically at this juncture, that I do not impugn the motives, nor wish to accuse of materialism, the experimenters in this field of investigation. I can not understand what pertinency theology has with this discussion. It is a purely scientific question, and does not involve any association with the dogmas of theology; it is a question of *fact*, and not one of theory. The deductions which have been made by the investigators alluded to are hypotheses, and I am entirely unable to appreciate the reasons or plausibility of the arguments of those gentlemen who have attempted to drag in at a side issue the theological question in this controversy. I am simply weighing the value of certain assertions which have been made, and the statements advanced have far from proven the position of my adversaries. In reply to my friend, Dr. Kempster, I will analyze briefly, *seriatim*, a few of the objections he made, as time will not permit me to consider them *in extenso*. First, as regards his very pertinent allusion to the phenomena of aphasia; it has been claimed, he maintains, and pretty clearly proven by physiologists and pathologists, that there exists in these cases a lesion of the posterior portion of the left third frontal convolution. Yet it seems to me quite conclusively proven, from the tabulated results of Dr. E. C. Seguin's labors, that there are numerous cases of the affection dependent upon an involvement of the convolution of the *right* side. In two cases in which there were difficulties of speech, there was no hemiplegia. "The weight of evidence, therefore, is decidedly against limiting the seat of the organ to this part. Thus, of five hundred and fifty-six cases of aphasia tabulated by Seguin, the third left frontal convolution was damaged but in nineteen. While, therefore, we must admit that injury or disease of this limited region will cause aphasia, it is going too far to assert that the lesion must exist in this situation in order that aphasia may be produced."—*Hammond.*

Prof. Ferrier himself admits that, "as both sides of the brain are symmetrical, and work conjointly, the memory of words may remain in the *right* hemisphere after the occurrence of lesion in the left." Seguin gives a table of autopsies, in which thirty-four were *against* the localization of lesion in the third left frontal convolution, and eighteen in favor thereof. The immense preponderance of disease of the *left* hemisphere is however proven in a table

in which five hundred and fourteen cases were due to lesions of the left anterior lobe, and only thirty-one to that of the right side. But still it can not be dispated that lesions on the *right* side are sometimes followed by aphasia, without any accompanying involvement of the *left* side. In this connection I would quote as confirmatory of my position the celebrated case of Velpeau, as quoted by Trousseau, of the wig maker, "a man who was in full possession of his reasoning faculties, and moreover was noted for his unconquerable loquacity." When he died, "a scirrhous tumor was found to have entirely taken the place of the two anterior lobes of the brain." Then the celebrated cases of Dr. Harlow and Dr. Jackson, who had respectively a tamping iron, and an iron gas-pipe transfix their heads with subsequent recovery must not be forgotten in this connection. Dr. Kempster's allusion to the experiments of Ferrier upon a monkey, and at which Dr. Tuke was present, I do not deem of much importance. I think it is now pretty generally admitted, even by our antagonists themselves, that electricity is not a proper agent for experimentation in this research, owing to the necessary diffusibility of the currents in the surrounding tissues. The use of caustic liquids is open to the same objection. Ferrier himself, in his work, admits that for more reliable and definite results to be attained in studying cerebral localization, it is necessary to have a most precise and thorough adaptation of means to that end.

In conclusion I insist that certain assertions of Brown-Sequard are clearly proven to my mind, and have the most important bearing upon this discussion, and to which we will again revert; and I claim that I have never as yet known his argument in this particular to have been refuted. I more especially allude to the conclusions at which he arrived, based upon certain experiments he made assisted by his son. In these instances cauterization of the cerebral substance of one hemisphere was followed by hemiplegia on the corresponding side, namely upon the same side as that of the injury. How does such a result agree with conclusions arrived at by those who support the localization of cerebral psycho-motor centers, in whose experiments the movements are always produced upon the side of the body opposite to that hemisphere which is irritated or experimented upon? Then again Prof. Rouget's experiments, as quoted by Brown-Sequard, it seems to me are quite unanswerable, namely, that, "after producing paralysis of the anterior limb by destruction of the cortical center of the opposite side of the brain, he found that when the similar center on the

other side of the brain was destroyed, there was (instead of a paralysis of the anterior limb yet free) the cessation of the paralysis produced by the first lesion." It seems to me unnecessary to develop this subject any further, and we must content ourselves with seeking to explain and reconcile this astonishing and contradictory result of experimentation just alluded to, before it will be possible to admit any of the claims of the theory of cerebral localization upon our credulity. As long then as Brown-Sequard's position is not successfully controverted by his antagonists, it seems to me that the whole side of their question is open to the very gravest objections.

The most serious arguments of the evening against my paper were made by the gentleman to my left, Dr. Boughton. I am free to confess that at first thought I deemed them unanswerable and felt inclined to "throw up the sponge." But upon more mature deliberation, and a more thorough scrutiny or analysis of their value and applicability, I have concluded that the gentleman's antagonism is not based upon valid reasons or his position impregnable. Now that I have, therefore, had a few moments for reflection which have enabled me to digest his reasoning. I would reply to him that the aphasia, resulting in the case he adduced, was occasioned in all probability by a propagation or diffusion of the pressure which was exercised. Can any gentleman undertake to fix a limitation to the effects of the aforesaid pressure? If, for the sake of argument, I would waive this explanation, I would then cite as a corroborative proof of the position I have taken, that reflex transmission of nervous action would also be more than a satisfactory solution of the phenomena observed. The irritation of a given center may result in the production of phenomena having their origin in the functions of most distant parts of the brain, in the action or working of centers most remote from the original source of irritation. Who can gainsay these facts? Brown-Sequard, in some very carefully written papers, has very thoroughly demonstrated that regional symptomatology is a myth, or at least purely hypothetical. If Brown-Sequard is correct in his deductions, all the various centers, instead of having distinct and appropriate localization, are diffused throughout the encephalic mass, and "lesions of the brain produce symptoms, not by destroying the functions of the part where they exist, but by exerting over a distant part, either an inhibitory or an exciting influence, or, in other words, either by stopping an activity or by setting it in play." He has also claimed, and I think with reason, that "if we

suppose that each of these functional centers is located, not, as these physiologists admit, in a cluster of cells all collected in a certain space, or a limited and well-defined part of the brain, but in cells very widely diffused through that organ, we can easily explain all the facts that are furnished by experimentation on animals, and by clinical observation."

"With this theory we can easily understand why considerable lesions in the two sides of the brain may not be followed by the loss of any functions, while it is impossible to reconcile such a fact with the former theories of localization."

Now I do not consider that I have placed an unfair interpretation upon the appreciation or valuation of Dr. Boughton's objections. Diffusion of the pressure, or the theory of reflex transmission will fully explain the phenomena which he quoted as antagonistic to my position; we can thus readily understand how an irritation of any part of the brain can destroy, or on the other hand, excite the functions of distant parts. We know also, as Brown-Sequard proves, that disease in the hemispheres may be followed by alterations of nutrition in distant parts, viz.: the pons, the medulla, the spinal cord, nerves, muscles, the skin, the joints, and even the lungs (œdema, emphysema, hæmorrhage or disturbances of the circulation.) It is thus proven that a lesion in one part, develops, sometimes, symptoms dependent upon changes in other parts, which may or may not come on with rapidity, and that sometimes a lesion in one part of the brain will produce symptoms, and fail to produce them in other cases. Moreover, physiology and anatomy have not proven that centripetal impressions, or physical sensations emanating from the external world, by a new physiological process or adaptation are animalized, spiritualized, or quintessenced in the lower basal ganglia; nor is it proven that they are afterwards propelled therefrom towards certain assumed, definite centers in the cortical portion of the brain, where they constitute the basis or material nidus of the purely psychological sphere, which these new theorists claim is only stimulated into action by incentives purely extraneous, or coming from without.

The thalami optici and corpora striata, according to our belief, constitute, as Jaccoud claims, a "system of conjunction," interposed between the cerebral and true spinal systems constituting a large depot of nervous force, and being the bond of union between the spinal and cerebral apparatus, which union is an immediate one through the medium of the grey substance of the aforesaid bodies, which substance is a receptacle and point of departure of the white

fibers of the two systems, which it places in communication. There are numerous anatomical and physiological facts to prove this assertion. If we were to admit the deductions of automatic cerebration, we would soon anticipate the study of treatises which would entertain us with learned disquisitions upon the feeling, smell, taste, sight and auditory properties of our ideas, possessed, as they then must needs be, with the physical qualities of all matter; and the time would not be far distant when we should learn that instead of the monkey aping man, we would ascertain that the culmination of human perfection is to be found in man's aping the monkey.

On motion the Association adjourned to 10 A. M.

JUNE 2, 1877.

The Association was called to order at 10 A. M., by the President.

The Association took up for discussion the paper read by Dr. Gray on "Suicide."

Dr. CATLETT. I had not anticipated making any remarks upon the question discussed in the paper. I agree with Dr. Gray in his conclusions, that suicide is not necessarily an insane act. I have long since arrived at that conclusion. I believe that is the legitimate conclusion from the history of the subject.

Dr. KEMPSTER. Mr. President, a statement of facts will add strength to any theoretical proposition relative to any subject. I can relate a case which supports the conclusions of Dr. Gray in every particular.

About four years ago in the State in which I now reside, a man shot and killed his wife. He ran into the house, (the shooting took place in the garden) caught up a large carving knife and cut his throat, as the reports have it, "from ear to ear." The hæmorrhage was profuse. There was no one in or near the house at the time, but the neighbors heard the report of the pistol and hastened over. Going into the house they found the man lying in a pool of blood, and apparently unconscious. A physician was sent for and at first it was decided to be useless to do anything for the man, as he was supposed to be dead; he gave some indications of life, however, and received the necessary attention at the hands of the physician. The man had severed the œsophagus, and had made a

clean sweep through all the anterior tissues of the neck; the man recovered, and was tried for murder, and the question of insanity was raised. I was subpœnaed by the Court, and after making a thorough examination of the man, and a very careful study of all the testimony produced, I could not make up my mind that the man was insane, and so I gave my testimony. According to the laws of the State he was sentenced to the State Prison. At the time my views were regarded as extreme—that I had wronged the man, and that I should live to change my mind, &c. However, the man by good behavior, and in accordance with the laws of the State, reduced his time, and a few months ago was released from imprisonment. During the period of confinement he was closely watched, and no evidence of insanity detected. He is now carrying on the trade of pattern-making, and laughs at the idea of insanity. I have met with several such instances where suicide was attempted, after a homicide had been committed, and when insanity had not been observed before the act or after. I am of the opinion that suicide is not always the act of an insane mind. I therefore agree with the distinguished writer of that paper.

The PRESIDENT. Has the man first mentioned ever given a rational account of the motives that induced him to commit homicide or suicide?

Dr. KEMPSTER. He did. Whilst in State Prison I was requested by the Governor to look up the subject of insane criminals, and I took occasion to have a long talk with this man, and asked him to give the motive which prompted the act. The man had married his third wife; it was one of those hasty marriages that sometimes make men repent at leisure. He found after the wedding that he had married a prostitute, and that there was no doubt of her receiving the advances of other men after marriage; and that he knew this fact, and had borne it for a long time. Two days prior to the shooting he had most indubitable proof. I think he was eye witness of the advances of some man who went into the chamber with his wife, and he was so outraged and incensed that he felt like killing his wife at that time. He restrained himself, however, and he said he would not have resorted to shooting if it had not been that she received a proposition from this man to meet him at some out of the way place; that he had found the note and read it, and she was on the way to the place when he did the shooting; that is the reason he gave for committing the crime. The reason he gave for the attempt at suicide was the disgrace and wretchedness in

which he would be involved, knowing that he would be tried for murder. I should say that at one time he had been worth some property, a man in fair circumstances, a straightforward man, industrious and temperate, but of strong passions; and he stated to me that the reason for attempting his own life was simply to rid himself of the disgrace which would follow the publication of the act he had committed.

Dr. HAZARD. I wish to place myself on the same line with Dr. Gray. I believe that his conclusions represent my own ideas on the subject. One point can not be too strongly insisted upon—the extreme danger of assuming insanity in the individual from any one act, be it suicide, homicide, or any other.

Dr. MACDONALD. Mr. President, I wish simply to speak regarding one point which has been brought out in the discussion of Dr. Gray's very able and entertaining paper. The point to which I allude is the popular idea that suicide is always the offspring of insanity. I once held the opinion that a sane person could never commit self-destruction; but after having carefully investigated several cases, and reflected a good deal upon the subject, I have gradually reached the conclusion that occasionally suicide is the cool and deliberate act of a sane mind. One fact which explains to me the reason of the popular belief that none but lunatics destroy themselves, is the disposition of society to put a charitable construction upon such acts, in order to save the family or friends of a suicide from disgrace and humiliation. To accomplish this juries are apt to sieze upon any circumstance that can be twisted or colored to indicate sufficient mental aberration to justify the rendering of the usual verdict of "suicide, while laboring under temporary insanity." Of course we all know that evidence of the kind mentioned would not be regarded as sufficient to establish the existence of insanity in an individual on trial for homicide, or in one whose case is being investigated by inquisition. In such cases the most overwhelming evidence is, as a rule, required in order to prove an individual insane. The common practice of rendering a verdict of insanity in every case of suicide has originated in the public mind an inference which is contrary to scientific deduction.

As regards the existence of a motive in all cases, I am of the opinion that suicide is *always the result of an incentive of some kind.* The fact that exceptional cases occur without the discovery of a motive is no evidence to my mind that a motive does not exist.

Dr. KENAN. Mr. President, I have a case in mind that may prove of some interest, a homicide and suicide in the case of a negro man whose wife was about to desert him for another. He heard of it one afternoon, and determined to kill her upon sight, armed himself—she, it seems, had been absent during the previous night and that day—the next morning he met her in the street, while he was engaged in his daily labors, and shot her; she fell, and he, supposing her dead, shot himself and was carried to prison, and the wound was found to be dangerous. The woman's injury was not serious and she lived. He died within a few days and gave as his dying testimony, that he loved her and rather than see her leave him and the children he would kill her, and supposing he would then, be hung proposed to kill himself.

No one ever suspected the least insanity from his conversations or actions. I am not prepared to say whether he was insane or not. The manner, time and extent of any pathological changes are exceedingly nice questions. I do hold, however, that a man is not necessarily insane who commits suicide, and believe that each and every gentleman present could imagine himself under such circumstances, with no visible relief, as to make him feel that he would commit suicide. Many a man, high-strung and chivalrous, yielding to a social glass of wine, thence to the gambling table where all is lost at chance, awakes sober and penitent, and in all coolness deliberates upon taking life rather than meet a devoted wife and children in poverty. I can imagine that a high-spirited man, under certain circumstances, had rather take his own life than yield it to his antagonist. It is or has been the custom in China, in duelling, for one principal to disembowel himself, feeling assured that his antagonist will do likewise.

Dr. STEVENS. I was highly pleased with the paper read by Dr. Gray, and I can truly affirm that my sentiments are in full accord with his. I have for a long time regarded this as an important question, and have anxiously desired that in the literature of our specialty there should be found something which could be referred to authoritatively in the frequently recurring cases in which we are called to testify as experts, and especially those in which the payment of life insurance policies depends upon the question, whether the act of suicide is *prima facie* evidence of insanity. I have in mind several instances in which experts have, in the most emphatic manner, given opinions which were entirely disregarded by juries and this I think grows out of the fact that the public can not regard so horrible an act in any other light than as one of in-

sanity. I confess I can see no reason why it is not possible for an individual to commit suicide as deliberately as he eats his breakfast. A young man in this city, whom I knew from his boyhood took morphine; he addressed one letter to his parents, one to his pastor and one to the public. He says, "perhaps the public would like to know how a man feels when he is about to kill himself." He then gives his reasons in detail, why he does not wish to live; in regard to the future he says, "I shall live as a bushel of coal lives, by being resolved into original elements." He evidently did not believe in the doctrine of the immortality of the soul as commonly received. I believe he performed that act as he performed the other acts of his life, so far as the mental processes were concerned. We have practical definitions of insanity that will apply to homicide as well as suicide. According to any test or definition that I know of this young man was not at any time out of his normal mental condition. Now when a man for years entertains exaggerated views of his relations to society, the case is widely different. A gentlemen living in the village where I was born, told my father that at some period he would take his own life; for more than twenty years the feeling was uppermost and the act was at last performed by the bullet. Each and every case investigated should stand on its own basis, and a verdict of sanity or insanity rendered in accordance with facts and the life history of the individual.

Dr. GUNDRY. Was it a usual thing for this young man to write letters to the public and the clergy?

Dr. STEVENS. I think not, sir.

Dr. GUNDRY. Was it an unusual act to do this?

Dr. STEVENS. I think it was, he was a steamboat pilot.

Dr. GRAY. I would like to ask on that point whether it was usual for him to hang himself?

Dr. GUNDRY. That does not follow.

Dr. WALLACE. A gentleman, a Jew, asked me my opinion some time since, as to whether the sane ever commit suicide. Telling him I thought they did quite frequently, he entirely agreed with me, and related the following case, which seems to corroborate very strongly the position assumed in Dr. Gray's paper. Two brothers, Jews, by the name of Andrews, engaged in business together—the one residing in New Orleans, the other in Mobile—had been trading largely, and, as it turned out, disastrously, in cotton, during what was known as the flush times in Mississippi and Alabama. By a sudden decline in cotton they were reduced

from affluence to the verge of bankruptcy. They met, and agreed to commit suicide at the same hour, if, as was then probable, their paper should go to protest on a certain day. An advance in cotton, however, enabled them to tide over, but as sudden a decline a few weeks afterward totally ruined them. On the morning of the day on which they knew their paper would go to protest, at the same hour, the one jumped into Mobile Bay, the other into the Mississippi River, as originally agreed upon.

I had been told the sad incident previously by a nephew of the parties, so that there is not a doubt in my mind but that it is substantially correct. In it there is a strong confirmation of the position taken by Dr. Gray, of which, however, I never had a doubt myself. If none but crazy people commit suicide my conclusion would be that none are sane as people committing it almost every day act and reason the same as anybody. I believe there are those who hold that there exists such a connection between the two—if in fact the one is not a simple functional manifestation of the other—that the existence of a sane mind presupposes a sane body, and as a condition of perfect bodily health never exists, there is no such thing as perfect mental sanity. Be this as it may, sane people, people whom to class as insane would be to confound all the facts upon which the distinction between sane and insane is based, often commit suicide; it is an every day occurrence in our world.

Dr. Nichols. Before calling upon Dr. Gray to respond to the observations that have been made upon his paper, I will say that, like Dr. MacDonald, in the early years of my observation and study of mental diseases, I regarded suicide as a strong *prima facie* evidence of insanity, but that I have since considerably modified my views upon this subject. I now have no more doubt that persons sometimes take their own lives in an undiseased and responsible state of mind than I have that they take the lives of others in the same mental state, but as self-destruction is more opposed to human instincts than the destruction of others, I still believe that more persons are driven to suicide than to homicide by insanity. If it be true that suicide is not infrequently the responsible act of a sane mind, it follows that in wills, life-insurance, and other like cases, the burden of proof ought to belong to the party that claims the advantages of insanity as the cause of suicide, just as it does when the plea of insanity is set up in capital criminal suits. There is much force, I think, in the statement that a person who commits suicide without exhibiting decided evidences

of insanity may be insane after all, for it is undoubtedly true that most persons take their lives after the *denouément*, so to speak, of a long period of great mental trial and perplexity, as when a man makes an utter and disastrous failure in business, after a long and perplexing struggle to go through a crisis, or finds that his crime is discovered after a long and harrowing struggle to keep it a secret. It is probable, and perhaps fortunate, that courts and juries will continue to be readily convinced that men take their lives in a "fit of temporary insanity," but that does not alter the philosophical application of the facts in these cases to the jurisprudence of insanity.

As there is no past history to throw light upon the mental condition in which suicides are committed, it will always be extremely difficult to determine, even approximately, what proportion of suicides is the result of mental disease and what is not. Though entertaining no doubt that persons of sound mind sometimes commit suicide, I am still under the impression that the majority of persons who commit that most unnatural act, would have refrained from it had not the normal instinct of self-preservation been more or less weakened or partly or wholly overcome by insanity.

The paper read by Dr. Hughes on "Unilateral Abscess of the Cerebellum," was next taken up for discussion.

Dr. Bauduy. I was an attentive listener to the learned paper of Dr. Hughes, which afforded me both pleasure and instruction. I must take exception, however, to some of the deductions which were drawn therefrom. I contend that we know no more of the physiology of the cerebellum than we did a century ago. In cerebellar symptomatology we have accomplished much, and made positive advance. Affections of the posterior cranial fossa can be diagnosticated with facility, and I agree with Niemeyer, that the evidences of disease in this locality are constant and characteristic, which fact is chiefly due to the great resistance offered by the tentorium cerebelli. The author just alluded to states, "we may readily err in diagnosis of diseases of the brain, but I do not remember to have made a mistake when I have given a diagnosis of diseases contracting the space in the posterior cranial fossa." He then alludes to the uniform success of his pupils, "who have repeatedly diagnosed them according to his instructions, and have verified the diagnosis by autopsy." These pathognomonic symp-

toms are occipital pain, vomiting, vertigo, impairment of sensibility and mobility without complete paralysis, general anæsthesia, and difficulties of deglutition and articulation. The dizziness is not an hallucination, but results from certain bodily movements. It is universally conceded that the cerebellum exercises no effect upon consciousness and has nought to do with intellection. In point of fact it is well ascertained that an ablation of both the cerebrum and cerebellum does not abolish sensation as long as the ganglion of the tuber annulare is not invaded. "Mere sensation and volition may exist independently of any intellectual action, as they may exist after the cerebrum has been destroyed."—*Dalton.* Paralytic manifestations do not result from disease of the cerebellum, therefore it has little or no influence over motility. Numerous instances prove that the entire half of the cerebellum may be diseased or destroyed, without inducing hemiplegia. In other cases of the same origin, hemiplegia will be present; but such instances are the result of an extension of collateral œdema, along the crura cerebelli to the hemispheres, and therefore the paralysis will not, under such circumstances, be induced by an interference with the cerebellar functions proper.

I am, moreover, convinced, after giving this subject special attention, that the cerebellum does not preside over the co-ordination of muscular movements. The deductions from pathology confirm this opinion, as they do not point to the presence of muscular in-co-ordination in the diseases of the cerebellum. Andral's ninety-three cases only furnish one instance which militates against this doctrine. Brown-Sequard says that the disorders of movement consequent on mechanical lesions of the organ are caused by irritation of neighboring structures.

Duchenne and Flourens' observations, which originally made them locate locomotor ataxy in the cerebellum, have been entirely disproved and were finally abandoned by themselves. The experiments of Dr. Hammond, of New York, are conclusive, to my mind, in this respect. He says that "the entire removal of the cerebellum from some animals does not apparently interfere in the slightest degree, even for a moment, with the regularity and order of their movements.

The cases of Guérin and Alexandrine Labrosse, in whom there was a complete absence of the cerebellum, and who nevertheless walked, and other special instances on record confirm the views advocated by Hammond and other distinguished physiologists and neurologists. Time and rest are all that are necessary for the ani-

mals whose cerebellum has been removed to recover from the vertigo, shock and slight disturbance of co-ordination which temporarily and fleetingly result. Thanks to the researches of Lockhart Clarke it is conclusively proven that the power of muscular co-ordination resides in the spinal marrow. Very recent investigations, within comparatively a few months, have been made by Charcot and his pupils, which demonstrate that the pathological processes which eventuate in sclerosis are located "in the subdivisions of the posterior columns, lying between the columns of Gall and the posterior horns of grey matter, and called the posterior root-zones." This fact, as Hammond observes, explains something heretofore inexplicable; namely, why the phenomena of Pott's disease, in which there is oftentimes posterior spinal sclerosis, is yet unaccompanied by the symptoms of locomotor ataxy. I am, therefore, fully justified in concluding that, notwithstanding the close association of the posterior columns with the cerebellum, and the divergence of the former in this latter organ after they have passed through its inferior peduncle, and have there ultimately been distributed, still cerebellar influence has nought to do with muscular co-ordination, and it is clearly proven by all the facts of experimentation and modern physiology. It is now very generally conceded that the erotic faculty has not its seat in this organ. The experiments of Flint very conclusively prove this assumption. Ferrier's cogent argument against erotic localizations in the cerebellum is furnished by an experiment of Flourens on a cock, whose cerebellum had been destroyed. This animal, when placed among hens, always endeavored to tread them. Whilst desirous of sexual relations he was unable to accomplish them because, in consequence of the presence of the disturbances of equilibrium, he could not jump on their back and remain there. Although this cock had lost half of his cerebellum, his "testicles were enormous." Ferrier regards it as "a sufficiently well-established fact that lesions of the cerebellum, as such, are capable of inducing disorders of equilibrium apart from indirect injury to neighboring structures." In conclusion I still maintain that we know as yet, absolutely nothing *definite* of the cerebellar functions. I am at a loss, therefore, to understand what Dr. Hughes considers the vicarious functions of an organ whose physiology is yet *sub judice*, furnishing, as it does, no light or information as to the role it primarily plays in the human organism.

Dr. Hazard. The functions of the cerebellum have been pretty fully discussed, yet we are still nearly completely in the dark in

regard to what they really are. From what I have been able to gather from publications and from observation, it seems to me that it is to be regarded as a re-enforcing organ or ganglion, generating an extra quantity of nervous energy, which is liberated or utilized by the higher nervous centers. But in the present confusion of ideas relating to the true functions of the cerebellum, it seems to me rather premature to conclude or to hypothecate that one lobe can, by vicarious action, perform the functions of the entire organ, when a part of it is diseased or destroyed. This seems to be the point of Dr. Hughes' paper, and it appears to me to be one that is not sustained.

Dr. Bucke. I have only one remark to make on this subject and that is this; I do not think enough account has been taken in this discussion of the scope of the function of co-ordination when the organism is perfect, and of the small part of that faculty with which we can get on in performing the ordinary movements of every day life. Supposing the cerebellum to be the center of co-ordination of muscular actions—as I believe it is—the whole of that large organ might well be required in having to perform such complicated motions as are involved in, for instance, playing the piano, dancing, skating, driving horses, shooting with a rifle and flying, and hundreds of others as complicated and exact motions, which can often be performed by the same man. Then compare with this immense scope of the function in question, the limited amount of the same function which would suffice for the needs of every day life, and it will be plain I think, that a large part of the organ, to which this function belongs, might be destroyed—always providing that what was left was in a condition to act—and the person still have enough co-ordinating power to perform simple acts fairly well.

Besides this consideration, there is another, which ought not to be entirely lost sight of. When a complicated act like walking has been performed some millions of times—for each time a foot is put down, the whole cycle of the act is completed—the sequence of muscular acts becomes organized in the cord, and it is doubtful if, after a time, the cerebellum has anything to do with them. This is true no doubt, to a less extent of many other acts, such as writing, speaking, sewing, &c., in persons who perform these acts very frequently. In cases of congenital absence of this organ, the fact of the faculty of co-ordination being still present, to a certain extent, would not prove that that is not the function of this organ, for there is every reason to believe that other parts of the brain might, at need, take on this function vicariously.

Dr. HUGHES. Not having heard the criticisms upon my paper, and in view of the fact that there are other papers, of more interest, to be discussed, before adjournment I forego further remark.

The paper of Dr. J. B. Chapin, on "The Consideration of some of the Obstacles to the Advance of Mental Medicine," was then taken up for discussion.

Dr. KEMPSTER. Mr. President, it occurs to me that this paper ought not to go unnoticed. It is a matter of great importance to us to know what the obstacles are that present themselves, that we must overcome, in order that we may arrive at a clear understanding of some of the causes of insanity. It is a very difficult matter to attempt to respond to a paper of this character, without preparation, but the importance of the subject demands our attention. In answer to a criticism of Dr. Chapin, I do not know any investigator who has yet attempted to penetrate to the origin of thought by means of the microscope, or that anyone has yet attempted to explain or account for the origin of delusion by means of the microscope. Neither do I apprehend that pathologists or microscopists anywhere attempt to delve into what is called by some, the "unknowable," whatever that may mean. It is doubtless known to some of you that I have been trying for some years to demonstrate some of the conditions found after death in the brains of the insane, indeed it has been my constant study when I had opportunity to devote time to it. The paper of Dr. Chapin, unless I misapprehend him, is calculated to disparage, somewhat, the value of the efforts that are being made at this time in this connection, whereas we should constantly endeavor to unveil what has so long been veiled, and should sustain every effort made to find out the underlying causes of mental derangement.

Mr. President, up to the present time I have made about two hundred and sixty microscopic examinations of the brains of the insane, and I have yet to make the examination which does not reveal positive lesions, and I regret very much indeed that I have not at hand—as I should have had, had I known that such a paper was to be presented—the proof to substantiate my assertion, and give the members of this Association an opportunity to see for themselves what I have seen, and then allow them to draw their own deductions. I find that there are lesions of the nerve cells, of the nerve fibers, and of what the Germans call the binding web

which holds the whole mass together; that there are lesions of the circulatory apparatus of the brain, in the arterioles and larger vessels. I find that there are lesions in the meninges and new growths, all of course affecting the tissue of the brain. I find that every tissue which goes to make up the brain is subject to disease. One word in reference to delusions; that subject has engrossed my attention for some time, and has led me to make the medulla oblongata and pons varolii and the upper part of the cord a special study, and I find in those cases in which delusions are a marked feature, or where there are hallucinations of smell or taste, I find in these cases, I say, that there are lesions affecting the rootlets of the nerves which supply the organs of special sense, changes affecting the nerve fiber itself, changes affecting the structure of the nerve cells which are adjacent to the finer ramifications of the nerve fibers, and upon which it is generally believed they are in some measure dependent for the special function they appear to possess; I say in those cases in which there are hallucinations of taste and smell, particularly, have I found lesions affecting the nerve tissue which supplies the organs indicated. I can not believe that the nerve cells are placed in the cortical substance of the brain simply to fill it up, they are there for some definite purpose. I apprehend that, in the organization of normal living tissue, each structure has a part to play. I think that there is a use for all the tissues; they are for some particular purpose, and whatever that purpose may be, whatever the office of the structure may be in which we find the nerve cells, that office can not be properly performed when the tissues are in a state of disease. In reference to delusions to which I alluded a moment ago, I find in those cases where we have delusions involving certain trains of thought when some particular ideas or class of ideas seem to occupy the mind of the individual, in those cases I sometimes find lesions in certain parts of the brain which seem to be especially involved in all these who exhibited during life the same form of mental disease. It has been my habit for some time to group certain forms of disease together, where there have been mental manifestations of the same kind in several cases, and then take up my laboratory note-book and compare it with the case-book in which we have a carefully recorded history of each individual, together with all the phenomena presented during life, and compare the lesions found after death; and while I am not prepared to say that I found in all instances the same form of lesion in a certain form of mental manifestation (I do not wish to be misunderstood in this particular) I

say that I do find a very striking resemblance in many of the lesions found in different individuals who had suffered from the same form of mental alienation, the lesions being so strikingly similar, and the part of the brain affected so nearly the same that there is more than a mere coincidence to warrant me in giving expression to these views.

One of the great difficulties which meet us at the threshold of these examinations, and over which many stumble and fall, is the extreme delicacy of the manipulations necessary to arrive at the results which reward us; and unless a person is specially trained, and has applied himself with the utmost assiduity to overcome the obstacles which present themselves in making these investigations, he will be apt to give up the whole subject as a matter beyond him, and believe it to be so great a task as to be impossible to follow it out, that the results will not reward the observer for the labor expended, but I assure you, gentlemen, that that is not the fact. Having overcome the preliminary obstacles to these examinations, the results will reward you, and I sincerely trust that, notwithstanding the fact that we may be called enthusiasts, there is beyond all this a field of labor in this department, which will reward every person who will enter into it with that zeal which must be given to it in order to insure success. One other "obstacle" that I was struck with in the Doctor's paper, and I am sorry that he is not present to hear the remarks that I make, was, that in acute cases of so-called mental disease it is impossible to tell whether any lesion exists or not, that we have in insanity as in other forms of bodily disease "functional disorder" lying at the bottom, that this functional disorder may be removed and the patient recover and leave no trace of the disease. We are not prepared to say that there are no cases of "functional insanity," but in those diseases called functional, I apprehend that there is no one who will pretend that there is not some disease at the bottom, which gives rise to the peculiar symptoms which we call functional, simply because we have not arrived at the time when we can positively demonstrate lesion in the brain before death, we can not deny the existence of disease there, and for want of a better term we may call the condition functional.

In the course of the examinations made, it has been my fortune to examine microscopically the brain tissues of persons who died within six weeks of the first perceptible outbreak of insanity. Among these was a case of puerperal insanity. Immediately after delivery the woman became insane, and within two weeks from

the time of her confinement she died. This case is the nearest approach to the origin of the trouble that I have had the opportunity to examine. In this case I found the most unmistakable evidences of disease, not only in the vessels, but in the brain tissue adjacent to the vessels, which had undergone change owing to the great pressure exerted by over distention of the vessels or from some other cause. I have several of these specimens in my cabinet that will satisfy anyone that there is a very marked change, both in the cells, in the fibers and in the membranes of the brain.

Another "obstacle" to which the Doctor alludes in his paper. He said, if I recall correctly, that certain forms of insanity appear to depend upon some disease of the lung and do not depend upon disease of the brain, and here we have functional insanity. Let us assume that the lung is diseased or the kidneys or that some visceral organ is impaired by disease. We know that the brain receives the largest supply of blood of any organ in the body. We know that the cells of the brain and the delicate structures of that organ are brought intimately into contact with the blood, that the grey matter receives about five times more blood than the white matter, and it is in the grey matter that the cells are placed. Now can we imagine that the delicate tissue, being thus flooded with blood conveying impurities received from the diseased viscera, can perform its functions properly, when it is floating, so to speak, in an unhealthy fluid, when it can not absorb that nourishment which is intended as food to sustain it in its normal action? I believe that frequently we may have disease of the nerve cells and fiber from just such causes as this. It strikes me that this condition can not be called functional, especially where change of the cell structure exists by reason of lack of nourishment. I can not believe that nerve cells can properly perform their duty when they are interfered with by disease in their immediate vicinity, when they do not receive the necessary nourishment which they require for normal action, or by interference from any other cause.

The statement made that I have yet to examine that brain of an insane person, which does not present palpable lesions, is perhaps sufficient without entering into a discussion of that portion of the Doctor's paper which alludes to the physical causes of insanity. I observed this fact, however, that whenever the Doctor had occasion to speak of insanity he connected it with physical changes, and I was in hopes that he would be here that I might ask him to define clearly what he meant by these, because all that

I have been attempting to show is, that I believe in the physical origin of mental aberation, that I believe that the brain is diseased in one way or another in all cases of insanity, either by the disease originating in the brain, or that some other organs being diseased, contaminate the brain through the blood supply, and set up disease.

Mr. President, the history of the rational treatment of disease shows that in most instances it has been arrived at through a knowledge of the pathological condition of the organ. If we take the liver and kidneys and other visceral organs we shall find that rational treatment of the diseases to which these organs are liable, depends on our knowledge of the pathology of these organs, and until this was understood treatment was in great measure empirical. And so it seems to me it is with disease of the brain, it must be more or less empirical until we know all about the pathology of the organ. To be sure we are on the threshold of the observations, we know comparatively little yet. It is only within the past few years that very special attention has been given to determining the diseases to which the brain is liable, and we shall not arrive at a rational treatment of insanity until we have reached a clear knowledge of the pathology of insanity. We must labor to some extent in the dark until we know all about the causation of insanity. I have not attempted to go over the minute particulars of the pathological states found in the cases of insanity examined. I have simply stated generally what I have found, not what my theory may be, nor what my ideas are relative to them, and as long as we do this we shall keep within the confines of our legitimate purposes. It seems to me that if gentlemen will take this matter in hand and pursue it persistently the "obstacle" that the Doctor spoke of will vanish. It requires labor, long and protracted; it requires application, but no matter the results will reward us.

Dr. Bauduy. If the Doctor will permit me I would like to ask him a question. I have greatly enjoyed his observations in which I fully concur. They are very expressive. I just simply want to ask the Doctor if he elucidated the fact that when certain hallucinations of taste and smell existed, whether in his experiments he ascertained small lesions to exist in the fibers going to make up the nerve of vision, or any of the other ordinary senses, or if it extended only to the senses of smell and taste?

Dr. Kempster. I found lesions affecting the fibers of the nerves in all cases where hallucinations existed referable to either of the

special sense organs. As such hallucinations are quite common in our institutions, I was led early in my investigations to look into this subject particularly, and I found in every case examined that the nerve fibers were involved.

Dr. Gray. Mr. President, my views on the pathology of insanity are so well known to the members of the Association, by papers which I have presented, and in various discussions, and through my reports, that I do not feel like entering into a discussion, particularly at this late hour. More especially in view of what Dr. Kempster and others have said. Then again I feel averse to discussing the paper in Dr. Chapin's absence, as I desire when I differ with a member that he should hear what I say. The title of the paper would lead one to expect an account of the real difficulties or obstacles in the path of investigation. So far as I can perceive he presents nothing new, and no real obstacles are set forth, beyond the well recognized facts that nature is full of mysteries, which she does not yield readily, that investigations require a great deal of patient labor and careful analysis. This always has been so, and always will be. These are hardly "obstacles to advance." I was rather surprised at his quoting Niemeyer as throwing cold water on investigations and pathological study as a path of medical progress. I hardly recall an author more careful to mark and appreciate the value and presence of pathological changes, and one who places less confidence in the assumption of disease in their absence. I assumed, as Dr. Kempster has remarked, that though the Doctor talked about "functional disease," and the difficulty of detecting disease, and about cases of insanity, that had disease of the lungs and other organs, without affecting the brain except "functionally," that all the way through he used such words as "hyperæmia," "inflammatory exudations," "congestions," "anæmia," molecular changes," &c. I do not know what these mean if they do not mean pathological, and real physical changes. If the Doctor calls all these "functional," then we differ as to the value of terms, If, by quoting authorities, and talking about insanity occurring without disease of the brain, and that people die insane, without disease being traced in the brain, he intends to convey the idea that insanity is not necessarily a disease of that organ, but that the changes in the way of feeling, thinking and acting, marked departures from normal mental action called insanity are independent of any change in the physical organ, then I take issue with his theory, and dispute his statements. That the mind upsets itself without any change in the physical

organism, is not a new theory, I am well aware, but I have very little faith in that kind of disease, and should be quite willing to call it "functional." In my way of thinking the very essence of insanity has reference to disease of the brain, the mental phenomena being only some of the symptoms of such disease. He speaks of changes, as hyperæmia, dilatations of the vessels, interruption of the circulation, slight exudations, &c., taking place, and afterwards relieved, denominating these functional, as far as I can see, simply because the changes have not gone on to destruction of tissues and death. This is an argument for, instead of against disease, and I do not see that he reconciles all this with the statement that changes can not always be traced after death, *ergo*, there are none. We have examined a great many cases *post mortem*, and I have never seen one in which the changes have not been plainly written in the organic structure. Why, death does not come from the will of man, or from a change that may take place in his mental operations! Death comes from disease, and is its logical result. Insanity is a disease of the brain, and it kills and leaves the trace. Insane persons die of diseases of the lungs, liver, kidneys, bowels, &c., but the brain, in these cases, discloses the secret of their insanity, whether it be in the early or late stages. This is a most important matter. Insanity can not be disease in one person, and no disease in another. Are hyperæmia, congestion, exudations, &c., normal states of the vessels and their contents? In speaking of these being present, and disappearing in the early stages, one feels like asking "have you seen them?" He surely ought to answer whether post-mortems record them, for no eye can penetrate the skull.

But this at least he ought to answer, whether they are present as mere complications or incidental conditions, or whether they are the essential basis of the mental disturbance. If insanity may exist without disease of the brain, then why not always? Why should we not meet this question squarely. If we know that there is hyperæmia, &c., then we know something, and that little, I suppose, we have learned from pathological study, and I presume we shall obtain more from the same source. Dr. Kempster has given some cases where death occurred early in the disease in which he made thorough examination. It is not too much to say that one such case is of more value in clearing away "obstacles" than all the general assumptions one can make. I have reported similar cases. I do not here refer to cases where death has taken place after the slow consecutive changes that occur in the chronic pro-

gress of the disease, but acute cases, where it has occurred in the midst of maniacal excitement or frenzy, and where the whole structure has been torn to pieces in a few days. And I have reported cases of mild type in early and late stages, and where death occurred from other causes than the presence of disease of the brain, where patients have died from acute and from chronic disease of the lungs and other organs, and I recall one case particularly where death occurred within three days of the attack of insanity, from congestion of the lungs, and in all these cases the changes in the physical structures were manifest. This latter case was certainly a fair brain to examine to determine whether changes really were present or whether there was only a "functional disturbance." But, gentlemen, we must go further than these conditions mentioned. There is something behind these changes which acts as a cause of disturbances of the circulation, &c. Some morbid condition of the intimate structure itself, changes in the nerve elements which only the microscope can read, and which only can be fully read by the most patient and painstaking investigations.

The Doctor finds another "obstacle" in that the morbid conditions in other brain diseases are so like the pathological changes claimed for insanity. This is simply begging the question. There are certain laws of disease, and modes of pathological action which obtain in all morbid processes in the brain. "Hyperæmia," "anæmia," "exudations," may be like conditions in various disordered states, but what they spring from may give them very unlike significance clinically. The clinical significance of symptoms must be determined by the underlying pathological states in insanity as in other brain diseases. The differential diagnosis of diseases of the brain is being wrought out by clinical observation and investigations. It will come, but not by guessing or dogmatising; certainly it will not come by discouraging or by neglecting investigations. By such labors alone it must come, and it will come.

Dr. Nichols. Dr. Chapin, on returning home before the discussion of his paper, did not appoint me his literary executor, but I think it due to him to say that his paper appears to me to have been intended rather as a protest against abandoning or undervaluing rational observation than to disparage and discourage microscopical observations. Dr. Gray and Dr. Kempster confess that these observations are in their infancy. I suppose there is no doubt of that, and also that there is much uncertainty in respect to the real light they have already shed upon the nature and treat-

ment of mental derangement. I have not myself been able to engage in the microscopical study of the healthy or disordered brain, but I am by no means prepared to deny that other people really see what I have not had an opportunity to see. I bid the gentlemen engaged in these different studies, God speed, and hope they will, in time, give us a surer knowledge of the pathology and treatment of those disorders of the encephalon, that give rise to mental aberration, than we new possess.

I frequently use the words "organic" and "functional" in talking to the most intelligent friends of patients and to medical men, and regard the use of these terms quite proper. Indeed, I do not see how we can conveniently discuss our cases in the light of our present knowledge without using them. All I mean by their use is that in one case there is more or less conclusive evidence that such palpable lesion of the mental organ (the brain) exists as experience shows is rarely followed by recovery from insanity, and that in another case, as there is little or no evidence of such a change of structure, we regard the physical disorder that underlies the mental as one of function only, or functional, and not of such a character as almost to preclude the possibility of recovery. I shall not be surprised at all if the microscope shall in time disclose delicate molecular or cell changes in cases that we now call functional, even in cases that finally recover; but that does not affect the practical value in the present state of our knowledge upon this subject of the distinction between cases of insanity that present evidences of organic, and probably incurable brain disease, and those that do not.

Another question, and one of less practical moment, has been raised in this connection. It is whether insanity is ever consequent upon a strictly functional disorder of the brain. Until Dr. Kempster puts the truth of his present impression upon this point beyond peradventure, I shall adhere to the belief commonly entertained, and that seems to be warranted by our present knowledge, namely: that organic disease is not a necessary condition of mental derangement. In the case of a man that has been intoxicated and mentally deranged and again sober, at different times every day for forty years, it is not reasonable to suppose that his brain has undergone a change in its substance and recovered from it daily during all that long period; and comparing the living brain and nervous system with the galvanic battery engaged in effecting chemical changes outside of itself, was a motive power one can well understand that, as the working of the inorganic galvano-chemical

or galvano-motor battery is effected by conditions that the microscope does not detect, and that only a scientific expert can comprehend and perceive, so the derangements of the normal working of the more complex organic and living battery may be still more occult, less perceptible to the senses, however aided, and more difficult to understand. I did not regard Dr. Chapin's paper as intended to discourage the microscopical study of brain lesions. On the contrary he distinctly bade those engaged in them "God speed."

Dr. GRAY. I do not think Dr. Nichols has sustained the "functional" theory of insanity in his remarks, and certainly there is a wide distinction between the disease insanity and the poisoning by alcohol which we call intoxication. Drunkenness is not insanity, and being intoxicated and again sober at different times a day or drunk all the time, is not being mentally deranged in any medical sense, though such a condition may be a good enough illustration of functional insanity. I have not intended to take exception to the word functional, but to the idea of functional disease and its easy alternation with "no disease." We may have disturbed function by reason of a condition of an organ under disease or under the action of poisons, or even passions, but we can not apply the word disease to a function. In disease we have something more than action or function of an organ to deal with. We have a real change in the tissues or fluids or both, which change is the pathological process and the underlying cause of the symptoms called functional disturbance. This change is one of a physical nature, and must be sufficient to disturb the functions to induce insanity.

That kind of insanity which has no physical disease as a substratum, or which consists only in the mental confusion from alcohol or opium poisoning, or unrestrained emotions, is too vague for medical recognition. The remark of the President that this paper is only a protest against ignoring or undervaluing rational observation is quite unnecessary. It is no answer to just criticism, and it is not by any means to be assumed that men who give themselves up to the deeper and more thorough investigations of the disease, would be the ones likely to neglect the common means. Dr. Chapin said nothing in his paper which conveyed such an idea to my mind, nor do I think a paper with that purpose is needed for the members of this Association.

Dr. KEMPSTER. I do not mean to convey the impression that Dr. Chapin *intended* to throw disparagement upon microscopical investigations. On the contrary, the Doctor distinctly observed

that he bade "God speed" to those engaged in the work. In reference to our President's remarks, I do not wish to take time by individualizing or relating special cases, but there is one case that comes to mind which illustrates what I mean by the so-called functional disturbance.

Within the year I had the brain of a man brought to me, who was in the habit for a number of years, of going to the saloons with his friends and getting "full," as it is called, without making any noisy demonstrations of intoxication. On this occasion he was on his way home one night and was accosted by two or three rowdies, got into a quarrel with them and was instantly killed. Within a short time I had portions of his brain under my microscope. I found there just what I expected to find. The brain cells were normal, but the circulatory apparatus exhibited all those signs which we should expect from alcoholic poison. The brain was gorged with blood and the cerebral tissue was pressed upon by the distended vessels, even the finer capillaries were filled to distention. You will remember that in the normal brain you can scarcely put down the point of a cambric needle without wounding one of the capillaries. Now when every one of these vessels is distended by the great influx of blood, some change must take place owing to the abnormal pressure, a pressure upon the brain tissue from within, instead of a pressure from without the cranium; and in gross intoxication the symptoms are closely allied to those produced by pressure upon the brain. This is as nearly the Doctor's functional disturbance as I can describe, but it appears to me that we have a changed condition of the parts. I do not take it that the Doctor used the word functional for want of a better term.

Dr. Walker from the Committee on Resolutions made the following report which was, on motion, unanimously adopted.

The members of the Association of Medical Superintendents of American Institutions for the Insane, about to close their thirty-first annual meeting, and the first (but it is hoped by no means the last) beyond the great "Father of Waters," the majestic Mississippi, in the fair city of St. Louis, desire to put upon record their thorough appreciation of the very courteous attentions they have received from his Honor the Mayor, from the Board of Health, from our professional brethren in special and general practice,

from the Managers of Public Institutions, and from the cultivated and public-spirited citizens of this beautiful and busy city. It is therefore

Resolved, that our grateful thanks are hereby tendered to His Honor, Mayor Henry Overstoltz, and to the Board of Health for their tireless efforts to render our sojourn in this proud city of the West, both profitable and pleasant, and especially for a charming ride through the picturesque suburbs, in the beautiful parks, to Shaw's unique and magnificent garden, and for a most instructive and gratifying inspection of the St. Louis Asylum for the Insane, under the guidance of our associate, Dr. Howard, and of the Hospital for Women; both of which are destined to be among the brightest jewels in the city's crown of humanity. We also gratefully remember the timely and generous hospitality and home-like welcome at the latter place. Above all, we do heartily sympathize with his Honor, the Board and Dr. Howard, in their earnest and most laudable efforts to provide for the large number of epileptic, idiotic and demented inmates of their almshouse, in a well-organized hospital for the insane, to enlarge and extend the already crowded accommodations of the St. Louis Lunatic Asylum, and to reorganize the management of these upon the principles unanimously adopted by this Association, and formulated in the series of propositions recently re-affirmed and printed for the benefit of the public. We pledge them our undivided and constant support in any effort they may make to carry out the principles laid down in those propositions; adherence to the spirit of them has always been productive of the most satisfactory results, while departure therefrom has invariably led to disappointment and regret. We further tender our grateful thanks to our old associates and valued friends, Drs. Stevens, Hughes and Hazard for their constant attendance upon our sessions and for their unwearied efforts to make memorable our visit to their home. God bless and prosper them, each and all!

To our worthy colleague, J. K. Bauduy, M. D., the visiting physician, and to the Sisters of Charity, the kind and successful managers of the St. Vincent's Asylum for the Insane, for the opportunity of minutely examining the arrangements of that time-honored Institution for the care, cure and comfort of their afflicted inmates. The neatness and order of the rooms and wards, the quiet, cheerful and evidently comfortable and contented appearance of the patients, and the cordial relations so apparent between the cared-for and the care-takers, are as creditable to them as they are

gratifying to ourselves. We also gratefully acknowledge their elegant and abundant hospitality.

To Dr. and Mrs. Stevens and friends, for the charming attentions and hospitality extended to the ladies of the Association, rendering their visit to St. Louis a present delight and a joyous remembrance.

To Capt. William A. Scudder for a welcome trip down the river in one of the magnificent steamers of the Mississippi, and to Capt. Carter for his courteous attentions to his novel and inquisitive party.

To R. P. Tausey, Esq., for his thoughtful provision of omnibuses for the easy conveyance of the members to St. Vincent's Asylum, and back to their hotel.

To the Merchants' Exchange Association for the privilege of visiting their interesting rooms and the adjoining museum.

To the Hon. Thomas Allen for the invitation to make a trip to Pilot Knob, on the Iron Mountain Railroad; to the Librarian of the Mercantile Library; to Prof. Ives, of the Washington University, and to Mrs. John A. Allen, Secretary of the Women's Christian Association, to visit their several places of interest; and which want of time, and the furtherance of the object of our meeting here forbid our acceptance, but for which we feel, and would express the liveliest appreciation. And, finally,

To the proprietors of the Lindell House, for their attentions to our individual comfort, and for the use of a most commodious parlor for our sessions; and to the reporters of the press for their accurate and full reports of our proceedings, and deference to our wishes, as well as for an abundant supply of their papers, and to one and all who have helped to make our stay here pleasant and profitable, we hereby offer our united thanks.

CLEMENT A. WALKER,
EUGENE GRISSOM,
JOSEPH A. REED,
Committee.

Dr. Grissom offered the following resolution, which was adopted:

Resolved, That we congratulate our much esteemed colleague, Dr. Andrew McFarland, an early, useful and beloved member of this Association, upon his new social relations assumed with Miss Abbie King, in our presence. We sincerely hope his days may be

long, his life happy, and that he may walk and not faint, may run and not grow weary.

Owing to want of time several Papers, which were read, could not be discussed by the members of the Association.

On motion of Dr. Curwen, the Association then adjourned, to meet in Washington, D. C., on the second Tuesday of May, 1878, at 10 A. M.

JOHN CURWEN, *Secretary.*

RETROSPECT OF GERMAN LITERATURE.

BY THEODORE DEECKE.

PARTICIPATION OF THE SYMPATHETIC IN CEREBRAL HEMIPLEGIA.

BY PROF. NOTHNAGEL, M. D., OF JENA.

Virchow's Archiv., Vol. 68, I, 1876.

In cases of long existing hemiplegia from hæmorrhages or embolic foci, aside from the common motory affections, the author sometimes observed a drooping of the upper eyelid on the paralyzed side, while the functions of all the other branches of the oculomotorius were quite normal. The question arises: why is only this single branch of the oculomotorius, the levator palpebræ superior, affected? In other cases there was noticed, beside the drooping of the eyelid, a myosis, a contraction of the pupil, but no other anomalies of functions. If, now, the ptosis were dependent upon a paralysis of that branch of the oculomotorius, whence then the contemporary myosis? In answer to these interesting questions Nothnagel reports the following case:

C. K., laborer, aged 64, enjoyed good health in former years. In 1868 the patient had a general hydrops, which existed until 1870. In the journals of the polyclinic, where he was treated, Morbus Brightii was diagnosed. After some time he was able to work again, although the œdema recurred. In February, 1870, he had a sudden apoplectic attack. Status in May as follows: frame, normal; moderate development of muscular fat; complexion, pale, but healthy. Patient is not feverish, lies mostly on the back, with a scarcely perceptible inclination of the body towards the right side; moderate œdema in the left, considerable œdema in the right lower extremity; very considerable œdema in the right upper extremity, the left entirely normal; traces of ascites. The urine shows the changes observed in nephritis parenchymatosa chronica (Bartels); moderate hypertrophy of the left ventricle of the heart; sclerosis of the palpable arteries. The expression of the patient is cheerful; when conversing he is somewhat emotional, but he seems to understand all questions addressed to him; left

by himself he is quiet and apathetic; speech is indistinct, with the exception of a few words; the tongue deviates to the right, although it is movable in all directions, but slowly, and only to a certain degree. Swallowing is difficult; when taking liquid food the patient prefers the use of a tube; the right leg is but slightly movable, the right arm immovable; during respiration the left half of the thorax expands more than the right; the same difference holds in the muscles of the abdomen; *temperature raised on the right side;* the right corner of the mouth hangs down; the right nostril is narrower than the left one; the right cheek is frequently puffed out in expiration; in the action of the musculus frontalis, the corrugator supercilii and the *orbicularis palpebrarum* there is no difference noticeable; *the eyeball is movable in all directions; the distance between the upper and the lower eyelid is greater on the left than on the right side, the difference being* 3 *to* 4 *Mm.; the outer corner of the right eye is a little lower than the left, the voluntary raising of the upper eyelid, however, is equally effective on both sides; the right pupil is about half as large as the left;* it reacts, also, to atropia, but slower; *the right eyeball lies much deeper in the orbit than the left, and is somewhat retracted;* we can not decide whether the cornea is flattened; *the temperature in the right ear is about* 1.1° *centigr. higher than in the left; a thin, slimy secretion is flowing continually from the right nostril, from the outer corner of the right eye, and saliva from the right corner of the mouth.*

In this case we have apparently a hæmorrhage on the left side of the cerebrum. But in summing up the symptoms emphasized in the foregoing it will soon be observed that they closely resemble in all details the phenomena resulting from a division of the cervical portion of the sympathetic. Prof. Nothnagel thinks it, therefore, more than probable that, following a cerebral lesion from hæmorrhage or embolic softening, not only the vaso-motor nerves of the extremities may become affected, as has long been known, but also those of the sympathetic nerve tracts which, through the cervical sympathetic, pass into the head and face. Where these tracts spread out or terminate in the central organs, after their course through the pedunculi cerebri, has not yet been anatomically ascertained. The questions, however, suggested in the beginning of this article, may be easily answered. The ptosis is not to be considered at all as the result of an affection of the branch of the oculomotorius, and there is no contradiction in the contemporary existence of the ptosis and the myosis—they both

relate to a paralysis of the oculo-pupilar fibers of the cervical sympathetic. Similar symptoms, as above pointed out, have been observed, following compression of the cervical sympathetic by tumors, and, finally, it should be mentioned that, quite recently, Brown-Sequard (*Archiv. de Physiologie*, 1875) has experimentally produced paralysis of the cervical sympathetic by cauterization of the cortex of the brain.

INSANITY FROM BASEDOW'S DISEASE.

Allgemeine Zeitschrift, 34, 1.

Dr. Böttger, of Carlsfeld, reports a case of Basedow's disease connected with acute mania, and draws special attention to the *rôle* which the sympathetic plays in the pathogenesis of that disease. The affection of the sympathetic, recently confirmed by a number of autopsies, favors greatly the development of cerebral symptoms by producing severe hyperæmic conditions of the brain. Among the symptoms of the case reported, there was especially remarkable a dilatation of the pupils and a hyper-secretion of the lachrymal glands.

HYPERTROPHY OF THE BRAIN.

From Professor Meynert's clinic in Vienna, is reported the following case of hypertrophy of the brain: A young girl, aged 22, of nervous family, her father a habitual drunkard, was suddenly afflicted with epileptic convulsions; she was of feeble constitution, had frequently suffered from palpitation of the heart; menstruation irregular. After nine months she had a second attack preceded by headache, dizziness and restlessness. Status of the patient when admitted: the head showed the abnormal circumference of 560 Mm.; violent shaking of both hands and feet; exophthalmus and strabismus; slight paralysis of the muscles of the face on the left side; no disturbance of speech; heart action increased, between 100 and 136; headache, dizziness; frequent singultus and vomiting; no delirium. During the following months there was a gradual aggravation of the symptoms, especially of the paretic. She died about seven months after admission. From the symptoms, a tumor, located in the posterior half of the pons varolii,

was diagnosed. The autopsy, however, revealed the following condition of hypertrophy of the brain (Rokitansky); skull-cap thin, rough at the inner surface; meninges deprived of blood; convolutions flattened; ventricles diminished in size and dry; brain-substance pale, dry, indurated; weight of the brain 1,508 grms., about 200 to 300 grms. above the normal average.

Other cases of hypertrophy of the brain are reported by A. Brunet (Breuty Charente) in the *Annalès Medico-Psychologiques*, 1876. The author distinguishes two forms, hypertrophy *with* induration and *without* induration. The latter form, according to the author has not yet been described. He reports two cases complicated with peri-encephalitis during the last month of life, in idiots, one 14 the other 18 years of age. The weight of the brain in one case, was 1,780 grms., nearly 1-20 of that of the whole body, the right hemisphere 820 grms.; the left, 790; cerebellum, 147; pons, 15; medulla oblongata, 8 grms.; the meninges were much injected; the cortex softened and infiltrated with blood; the capillary vessels enormously dilated. The autopsy in the second case revealed the same condition. A partial hypertrophy of the brain, according to the author, has been rarely observed, only following a perforation of the skull and hernia of the brain.

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REPORTS OF FOREIGN ASYLUMS.

ENGLAND. *Eleventh Annual Report of the City of London Lunatic Asylum, Stone, near Dartford:* 1876. OCTAVIUS JEPSON, M. D., Medical Superintendent.

The number of patients in the Asylum, December 31, 1876, was the highest on record to that date, viz., 378; 148 males and 230 females. Ninety-three were admitted during the year, three of whom had been in the Asylum before. Twenty-four were discharged recovered, three relieved, and one "not improved." There were twenty deaths. The whole number admitted from the opening of the Asylum to December 31, was 943, of whom 181 were discharged recovered.

During the year two fatal accidents occurred, one in an epileptic woman, who suffocated, probably in a fit, the other in the case of a man who escaped from the attendant, secreted himself on the roof and soon after fell to the ground, receiving injuries from which he died the following day. A very good showing is made in the manufacture and repair of clothing, boots, shoes, ward-linen, upholstery, &c.

ENGLAND. *Report of the West Riding Pauper Lunatic Asylum:* 1876. HERBERT C. MAJOR, M. D., (Edin.) Medical Superintendent.

In the Asylum, January 1, 1876, there were 1,406 patients. Admitted during the year, 437. Re-admitted, 74. There were discharged recovered, 279; "relieved" and "not improved," 98; not insane, 1, and 136 died; so that there remained, December 31, 1876, 1,403; 695 men and 708 women.

For the fifty-nine years preceding the date just given the whole number of admissions was 14,893; 7,378 men and 7,515 women. During that time there were discharged recovered, 6.369; 2,856 men and 3,513 women; relieved, 954; not improved, 799; and 5,368 died.

The percentage of recoveries on all the admissions was 42.76; on the admissions for 1876 it was 54.59. In the month of September, out of 699 male patients, 524 were at sometime employed. This is one less than the average for the four months given, but it is not stated that it is the daily average number of those occupied. During the same month, out of 717 women, 534 were employed, which is the largest number for either of the four months.

In January, Dr. Major who has been for five years Assistant Medical Officer in the Institution, was appointed Medical Director in place of Dr. Crichton Browne, who had been appointed one of the Visitors of Chancery Lunatics.

A feature of Dr. Major's report which we especially notice is his suggestions as to classification of causes which is "that in every case, the conditions, however numerous, which, on full inquiry, would appear to have *taken part* in its production, should be recorded, and the results finally tabulated, by adding together and classifying all the causative influences assigned in all the cases under consideration." Then follows three hypothetical cases tabulated according to the proposed plan. While these *associated* causes should form part of the history of every case, they may not be at all *related* to each other, and we should fear that such an attempt at classification would not only be confusing and cumbersome, but fail in its object to give more satisfactory and definite deductions from facts.

ENGLAND. *Annual Report of the Broadmoor Criminal Lunatic Asylum:* 1875. W. ORANGE, Medical Superintendent.

On January 1, 1875, there were in the Asylum 400 men and 106 women; 30 men and 12 women were admitted during the year. Twelve were discharged recovered, all but one being removed to prisons. Sixteen were transferred to other asylums and fourteen died; leaving in the house the same number with which it began the year, viz., 506.

The full capacity of the Asylum is 563. Of those admitted, sixteen, ten men and six women, were charged with murder, and nine men with attempt at murder. One man—the only readmission—having recovered, had been remanded to prison in 1874. He was tried and acquitted on the ground of having been insane when he committed the murder, but was "ordered detained during Her Majesty's pleasure," and soon after was returned the Asylum. Another man, who, in 1866, murdered his paramour, "having shown no indication of insanity for several years, was discharged conditionally, to the care of a relative." One death was due to suicide by hanging. This occurred in the case of a man who had been acquitted on the ground of insanity, of a charge of wounding with intent to murder. Those cases "under sentence of penal servitude," are separated as much as possible from those "who were acquitted on the ground of insanity or found to be insane before trial." "The gain to those wards which have been freed from the convict class is very marked, whilst in the other wards, into which the convicts are now collected, a system of treatment based upon a full recognition of the fact that the inmates were criminals before they became insane, and that the occurrence of insanity by no means causes them to forget their previous habits and propensities, has resulted in rendering those wards

as tranquil and orderly as any other part of the Asylum." "No form of mechanical restraint was used in any part of the Asylum during the year; but seclusion, as it is termed, is found unavoidable, especially during those portions of the day when the attendants are occupied in cleaning the wards or serving the meals." The report also contains several interesting statistical tables.

IRELAND. *Twenty-seventh Annual Report of the Cork District Lunatic Asylum:* 1876. JAMES ALEX. EAMES, M. D., Medical Superintendent.

On the first of January, 1876, there were in the Asylum 708 patients, 373 males and 325 females and 196 were admitted during the year, of whom 93 were re-admissions. Eighty-seven were discharged, 75 recovered and 12 improved; and 75 deaths occurred, leaving in the Asylum on the last day of the year 742.

One suicide by suspension is reported, death not taking place until twelve hours after the hanging, "resulting from congestion produced by the suspension."

The Doctor repeats a former request that provision be made to relieve the overcrowded condition of the house. In the way of amusements "a most essential element in the successful treatment of the insane," they have organized a band, which gives them nightly performances both winter and summer. Indoors, also, they have periodicals and a variety of games and "the nucleus of a library is about being formed."

The net profit on the land under cultivation was £8 9s. 5d. per acre. The total expenditure for the year, per patient, was £22 4s. 6 5-11d. The daily average number of patients employed was a little more than forty-seven per cent. The dietary is very simple, consisting of but two dishes at either meal as bread and

cocoa at breakfast, potatoes and soup at dinner and bread and tea at supper. In the table of causation, out of the 742 cases, 105 are attributed to moral causes, 155 to physical, 67 to heredity and 413 are set down as "not known." Among those discharged recovered one had been in the Asylum between seven and eight years and another between five and six. Such facts show the importance of persistent treatment. The report also contains the Inspector's statements regarding the condition of the house on the occasions when he visited, and also a lithograph of the Institution and grounds.

IRELAND. *Annual Report of the District Lunatic Asylum of Clonmel, County of Tipperary:* 1876. W. H. GARNER, Medical Superintendent.

At the close of the year the total number of inmates was 367; 194 males and 171 females; 22 more than on the same day of the previous year. There were 80 admissions, against 71 for the year 1875. Sixteen were discharged recovered, 12 improved, 1 escaped, and 27 died.

The Doctor's remarks are very brief. He congratulates himself and the House upon their freedom from mishap or accident during the year, but suggests that he has had other cares and anxieties, notably, "the difficulty of managing a large staff of attendants not selected by himself, and who are responsible for their acts to him merely as the Executive Officer of the Board." The table of dietary is very similar to that of the Cork Institution. No report as to occupation is given. The approximate profit per acre under cultivation is stated to be £6 5s. 8d. The average total expenditure, per capita, was a trifle under thirty pounds.

SCOTLAND. *Thirty-seventh Annual Report of the Crichton Royal Institution and Southern Counties Asylum:* 1876. JAMES GILCHRIST, M. D., Medical Superintendent.

The number of patients admitted during the year to both Institutions was 152, four being re-admissions. Eighty-eight were discharged and 33 died, leaving in the House at the close of the year, 526; 292 men and 234 women. Of those discharged 57 were recovered, 29 relieved and 2 "not improved." The percentage of recoveries on admissions was 37.5. The percentage of mortality on the number under treatment was, in the Crichton Institution, 4,237 and in the Southern Counties Asylum, 5.58.

In the Crichton part of the report is an "In Memoriam," to an old physician, who had long been a patient in the Asylum. It is reprinted from *The New Moon*, a monthly serial published in the Asylum.

Under limited and ordinary parole, 18 women and 22 men, during the year, enjoyed more than usual freedom, and 4 women and 18 men were given "unlimited parole," which allows them to walk in the country or town, sometimes attending lectures, concerts, &c.

"Experience teaches that if a judicious selection of the patients be made, the liberty given will very rarely be abused, as regards ordinary patients. To this general statement we make only one exception, in the case of the class, yclept dipsomaniacs. Rightly or wrongly we deem it our duty, from a medical point of view, in the treatment of this class, to test their recovered self-control by withdrawing the restraint of the Asylum before they are discharged. Thus, naturally enough, they form a proportion of those on parole."

One hundred and eighty-three instructive or entertaining recreations were provided for the House during the year. This does not include out-door nor in-door games.

In the Southern Counties Asylum there are reported, under accidents, five fractures and two scalds. Three were fractures in the forearm; one, of the ribs, and one of the neck of the femur. One hundred and sixty-nine amusements, including balls, concerts, croquet parties, &c., were furnished the patients. The difficulty of securing good attendants is dwelt upon and the hope expressed that ere long "no one will be admitted to so important an office without being duly trained and certified."

SCOTLAND. *Annual Report of the Royal Edinburgh Asylum for the Insane:* 1876. T. S. CLOUSTON, M. D., F. R. C. P., Physician Superintendent.

At the beginning of the year there were 709 patients in the Asylum. During the year 360 were admitted, 180 men and 180 women; 260 were discharged, and there were 82 deaths; which left in the House at the end of the year 726; 333 men and 393 women. Of the admissions 125 were of the private class and 90 were re-admitted. Of those discharged, 160 were recovered, 75 relieved, and 25 "not improved."

Dr. Clouston discusses the question as to the *real* or *apparent* increase of insanity, and is inclined to attribute the increase of cases sent to asylums every year, to other causes than the increase of disease of the brain, and gives eight reasons for so thinking; the first of which is that, "the importance of early and suitable treatment is now more recognized, our statistics showing that many more cases are now sent in at an early stage of the disease than formerly." The second refers to the increase of cases sent "due to bouts of alcoholic excess." Third, that "cases of slighter mental disturbance, the result of old age, of paralytic attacks, &c.," are now "sent here to be nursed and cared for." The fourth and

fifth refer to economy. The sixth to the less strong prejudices against asylums. Seventh, that *custom* has made it more easy for relatives to send their insane friends to asylums and, lastly, "the present tendency of society is to be intolerant of mental peculiarities and idiosyncrasies. It will rather pay for their absence than see them in its midst."

Following this are remarks on the selection of cases whose treatment should be attempted at home and those who should go to the asylum. In speaking of causation the Doctor makes the following statement, which appears to us extraordinary: "Intemperance stands, as it always does, at the head of the list of causes, and, in nearly one-fourth of all the cases, was put down as having had more or less to do with the coming on of the mental disease." We are loth to believe that our Scotch brethren have come to such a state of inebriety as this remark implies. In his remarks on the mortality of the House, paresis receives especial attention, as there were twenty-two deaths from that cause alone. For this condition "no remedy has been devised that has ever proved successful in any one case. It is the one absolutely hopeless disease of asylums. Irish physicians tell us that in that country it is so exceedingly rare as practically to be absent. Medical statistics say that it is proved to be increasing yearly in France and there is but little doubt that it is increasing here too." A seaside house is mentioned "at which one-half of our East House ladies and gentlemen, as well as some of the inmates of the West House, spent about a month each," to the good of many and the enjoyment of all. "In the cases of some patients I think that a thorough change at a certain stage of recovery is most beneficial and completes the cure when nothing else would. I have often heard of sudden improvement in chronic,

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lingering cases, through removal to another institution and have observed the same result to follow the transference here of such cases from other institutions." The Doctor refers to the disuse of high-walled airing-courts and adds, "for the treatment of certain individual patients, as individuals, an enclosed space in the open air is useful," but, as to patients in general, he reflects the well-demonstrated experience of the specialty that "they derive more benefit from walking, or working in the open grounds." After still further commending such labor he pertinently says, "unfortunately a man who is in the position of a gentleman can seldom be got to do a thing so good for him. His wits must be far gone before he will do it; and the moment they come back again, his prejudices also return."

SCOTLAND. *Fifty-Sixth Annual Report of the Dundee Royal Asylum for Lunatics:* 1876. JAMES RORIE, Resident Physician.

There were 207 patients in the Asylum June 21, 1875; 80 were admitted during the year and 19 re-admitted. Thirty-nine were discharged recovered, 30 improved or relieved and 16 died; leaving in the Institution, June 19, 1876, 221 patients, 118 men and 103 women. In the table of *causation*, out of the 99 admissions, 84 are put down as "unknown," two "not stated," one attributed to "annoyance from anonymous letters," and of the remaining twelve but nine are referred to physical causes, and of these five are credited to intemperance. Another table gives the number of patients admitted from April 1, 1820, to June 19, 1876, as 2,737, of whom 1,218 (44.5 per cent.) were cured. The average annual mortality, from 1830 to 1876, inclusive, was 6.09 per cent. The Directors report on the building of a new asylum, the site of which has been purchased. It will consist of two sep-

arate buildings, one to accommodate 80 patients of the better class, and the other for poorer patients, to the extent of at least 270.

Dr. Rorie appears to have had an enviable experience in inducing patients to take sufficient food. He reports a case admitted during the year in which "it was found advisable to use the stomach-pump to administer nourishment. This is the first time that it has been found necessary to employ this mode of compulsory alimentation in this Asylum for upwards of seventeen years."

"Arrangements have been made to test the value of the system recently recommended by Dr. Ponza. Two rooms have recently been fitted up, one for the admission of red and the other of blue light. On two occasions marked diminution of excitement was found to result from placing a patient in the blue chamber, but as yet the cases submitted to treatment have been too few to warrant a more decided opinion being given."

WALES. *Report on the Hospital for the Insane, Gladesville:* 1876. F. MORTON MANNING, Medical Superintendent.

The year began with 642 patients; 340 were admitted, 203 men and 137 women, of whom 61 were re-admissions. The average daily number was 610. One hundred and fifty were discharged recovered, 32 relieved, 141 "not improved," and 43 died; leaving in the Asylum on the last day of the year, 616; 342 males and 268 females. The percentage of recoveries on admissions was 44.11. The Institution has been unusually overcrowded, which in "an old, badly constructed, inadequately fitted building in which there is only a proper cubic space for 450," must have caused the officers "much labor and anxiety," and "been strongly prejudicial to the best interests of the patients." After speaking of the bad arrangements of the house as to architecture, and the lack of sufficient single rooms for violent, noisy and dangerous patients, he says:

"I have been in many public Institutions, and have seen several which contained more than their proper number of inmates, but I have never seen anything like the male division of this Hospital. Some months ago the Medical Superintendent of the Asylum at Stockton, in California, took me into the wards of that Institution at night to show me what he considered to be an unparalleled overcrowding, and want of sleeping accommodation. I was obliged unwillingly to confess that the condition of my wards was far worse, and that I had not the near hope of relief which he had, in the new and magnificent Institution at Napa, capable of containing 600 patients, and all but ready for occupation."

It is the Doctor's experience that "the percentage of recoveries has been higher or lower in proportion as the Hospital has been more or less overcrowded." "Purpura has as in former years been extremely prevalent," and the cause is believed to be "the vitiated atmosphere of the overcrowded dormitories," as the dietary "though not varied is abundant, and the supply of vegetables is quite equal to that given in kindred institutions." In regard to heredity, he says:

"Every year's experience shows in a greater degree the terrible extent to which insanity, or such disease of the nervous system as conduces to it, is hereditary. It is a sad and striking fact that insanity itself, or a condition of brain strongly predisposing to it, is a legacy left to hundreds by their progenitors, and it is no small part of the benefit which Institutions for the insane confer on the community that they check, in a very large degree, the propagation of a disease so hereditary in its character."

"The number of cases (31) set down in table 10 to the credit of *intemperance* is large, and I believe the number due directly and indirectly to this cause, and to the abominable and poisonous compounds sold in a large number of the public houses in this Colony, is really larger than that stated. The habitual intemperance of language, however, in which all intemperance in drink is denounced, and the exaggeration of statement which would represent every Lunatic Asylum as a sort of cemetery for the victims of alcoholic excess, can do no good and is productive of considerable harm. It leads to a pharisaic passing by of the miseries and wants of the large and innocent majority of asylum inmates, and to an ignoring of the many other causes of cerebral disease which it is desirable to guard against."

Then speaking of idiocy resulting from intemperance of parentage, he remarks that his experience with cases of idiocy admitted to his Institution, and the Asylum for Imbeciles at Newcastle, is in accord with that of Dr. Grabham, of Earlswood Asylum, who "has stated that out of 800 idiots admitted into that Institution, he only found six instances in which intemperance in the parents was stated as a cause of the idiocy." In a large proportion of cases, idiocy appears to depend on the health of the mother during pregnancy; it is not infrequently due to shocks or fright at that period; it is often due to long-continued ill-health; and it is oftener the result of a thorough exhaustion of maternal powers. Idiots are, in one-third of the total number of cases, the youngest of the family, the last and almost abortive efforts on the part of parents worn out by ill-health and the anxieties and responsibilities of life."

SCOTLAND. *Report of the General Board of Commissioners in Lunacy for Scotland:* 1876.

This Blue-book is a large octavo of 137 pages and comprises both a general and particular view of the condition of the insane in Scotland; including their number, distribution and proportion to the population; a history of the escapes and accidents that have occurred among them; the results of treatment in and the condition of the different establishments, which embrace the Royal, District, Parochial, and Private Asylums, the lunatic wards of Poor-houses, the Training Schools for Imbecile Children and the Lunatic Department of the General Prison; the patients in private dwellings; expenditures for pauper lunatics, &c., and an appendix, with statistical tables, which is practically an epitome of reports of all the institutions in which the insane are confined or cared for in that country. Altogether the

number brought under official cognizance was 8,509; 3,958 males and 4,551 females. Of these 1,497 were of the private class, 6,958 were paupers and 54 were State patients in the General Prison. The number of insane to each 100,000 of the population was, in 1858, 191; in 1868, 211 and in 1876, 236. In 1861 the proportion of pauper lunatics to paupers was as 6,800 to 100,000; while now it is as 11,138 to the same number. But this "does not justify the conclusion that the increase is due to a more frequent occurrence of mental disease." In another part of the Report reasons are given for this apparent increase, very similar to some of the eight reasons given by Dr. Clouston and mentioned in the review of his report.

The admissions for the year numbered 2,370; 1,129 males and 1,241 females. Of these 535 were private, and 1,835 pauper patients. Forty-five "voluntary patients," were admitted during the year. These "are not registered as lunatics, their names and other particulars regarding them being entered in a special register. The great majority of voluntary patients are persons who place themselves under treatment in consequence of a habit of indulging to excess in the use of alcoholic stimulants, but there are not a few who do so in consequence of laboring under mental depression." If a voluntary patient is afterwards discovered to be incapable of appreciating the nature of his act in committing himself, he is then committed according to the usual prescribed form; and some, who have been admitted in the ordinary way, remain in the asylum as voluntary patients after having been discharged improved or recovered.

During the year there were discharged recovered, 1,092; not recovered, 389, and 585 died. The percentage of recoveries on admissions was 46.07. One

hundred and twenty patients were discharged "on probation." Of these, 28 were finally discharged as recovered, one died, 19 remain under care of friends, 23 have been returned to asylums and 49 are still on probation. There were 272 escapes, more than half of whom were returned within twenty-four hours and all save 29 were brought back within the limit fixed by law.

Fourteen attendants were dismissed for ill-treating patients; 22 for drunkenness and 59 others for dishonesty, incompetency, insubordination, &c. The number of accidents reported to the Commissioners was 117. Thirteen ended fatally, eight being suicidal cases. There were 29 instances of fractures or dislocations, chiefly resulting from falls in epileptics or feeble persons.

There is but one establishment for the State or criminal lunatics. This forms a part of the General Prison at Perth. It has accommodations for 58 patients. Of the nine admissions for the year, three were charged with murder, one with rape and the others with serious assault or theft.

In the portion of the Report referring to the condition of the various institutions, we notice a number of instances in which overcrowding is complained of. The unusual liberty given the majority of the patients in the Banff, and Fife and Kinross Asylums is favorably commented upon. In regard to the disuse of walled airing-courts, "it is understood that, in the opinion of superintendents, no increased difficulty of management has resulted from the change; perhaps, however, the anxieties of management are somewhat increased by it." "In a large number of our asylums the doors are being furnished with locks having ordinary handles. The constant and offensive use of a key in opening the door is thus avoided, and *pro tanto* the sense of imprison-

ment is done away with." Allusion is also made to the "extended employment of the male patients in useful and profitable out-door occupations."

The number of patients in private dwellings visited by the Commissioners was 1,281. One hundred and twenty-four of these were private patients. In general the report on the utility of this system is favorable, but there seems to be a certain number of cases, as erotic young women, or some whose insanity is but slightly marked, whose care in private dwellings is attended with difficulties and risks.

The total expenditure for pauper lunatics in Scotland the past year, was £165,261, more than double the expenditure for 1858. Eight thousand pounds were contributed by friends or others. "We are of opinion that it would be a public advantage if the friends of the pauper inmates of asylums were called on and obliged to contribute more frequently to their support." The daily cost of maintaining a pauper patient in Royal, District and Parochial Asylums varies from 1s. 2 3-4d. to 1s. 8d.; in the lunatic wards of a Poor-house from 9 1-2d. to 1s. 5 3-4d., and for patients in private dwellings from 6 1-4d. to 10 1-4d. This latter class would certainly not appear to live extravagantly.

Our meager gleaning from the fields of this Blue-book merely suggests their richness and extent. The value of such a Report is positive, and we regret that we have not a similar one to lay before our friends on the other side.

Confession: the Physician and the Priest. An address delivered at the opening of the Section of Psychology at the late meeting of the British Medical Association, by Dr. JOHN CHARLES BUCKNILL. Printed in the *British Medical Journal* for August 11, 1877.

Dr. Bucknill has here chosen a subject in connection with which a very powerful excitement has pervaded

nearly all classes in England, occasioned by the exposure in Parliament, by the Archbishop of Canterbury, of a private manual of Confession, said to be in use among a portion of the Anglican clergy, and entitled the "Priest in Absolution." The book is said to enter largely into detail upon subjects connected with the Seventh Commandment, and thus to minister to prurient and uncleanly feeling or actions in those who come under its influence. The controversy is one that can not much interest or affect us here in America, where ecclesiastical matters are generally relegated to their own sphere, and seldom attract notice from the other professions. We should suppose it would be very difficult in a public address to attack the practice of confession without offense to the prejudices of Roman Catholic hearers; but Dr. Bucknill has managed this part of his task very well. His chief point is to show that the offices of priest and physician are by no means (as seems to be claimed) identical. "The physician is a naturalist, the priest a supernaturalist; no sophistry can bridge the abyss between them." The physician "pretends to no supernatural power acquired by mystic ceremonial, and he is content to do that which any other human being can do, who has taken the trouble to learn his art. That art is the correction of deviations in the organism of men's bodies, which disturb the ease with which it works in health; that is to say, the removal of bodily disease, which in itself has no necessary connection with disobedience of God's laws, and is no more sin than health is virtue." "There is absolutely nothing in medical practice corresponding to absolution, which is the very essence and acme of the priest's proceedings." The Doctor well suggests that in many cases the symptoms are quite visible or ascertainable without any history from the patient, and even in diseases of the nervous system, the

physician will often seek the history from a near relative, rather than encourage the patient to a morbid repetition of his own unwholesome thoughts and ideas.

The Doctor, however, admits that the comparison is sometimes made by good authors as a mere oratorical metaphor; as in the case of Hooker (not "Bishop") who said that "priests are spiritual and ghostly physicians in the private particular case of diseased minds." Such an illustration may be allowed, without going the length of saying that sin is disease, and the priest a physician. The Doctor's conviction and conclusion is, that caution is especially necessary to us as "mental physicians, seeing that the peculiarities of our specialty compel us to inquire into the state of men's minds, and the hidden circumstances and conditions which lead to them. The symptoms of the diseases with which we deal being far less obvious to the senses we are compelled to occupy a position which carries a greater danger that we shall be *compared with spiritual confessors*, and which needs the greater caution that we should walk with prudence and circumspection in the well-trod paths of medical reticence, forbearance and wisdom."

The opening, and major part of the address, mainly on specialism, is infused with a spirit of geniality and humor quite classic in its taste of "Attic Salt." What he says about the dangers of too narrow devotion to one idea, or one branch of work, and the importance of going occasionally out of one's special line, and mingling with minds of various characters and pursuits in the world at large, ought to furnish a valuable hint to earnest and ambitious laborers in any profession. We wish, too, that the relation of psychology to the physical improvement of the species, and the "repression of a generation of criminals," which the Doctor but glances at, could be followed up till it should promise substantial practical benefits to society. On the whole,

one can but be struck with the unusual ability of argument, combined with a style clear, keen and trenchant, that characterizes Dr. Bucknill in nearly all that he writes. He illustrates well in himself what he says to his fellow specialists, in regard to the value of general knowledge and extra professional culture. Such a paper is well worth preservation.

OBITUARY.

CARLO LIVI.

On the fourth of June, 1877, in the fifty-fourth year of his age, died one of the most illustrious Italian alienists, a man of world-wide reputation, Professor Carlo Livi, Superintendent of the Asylum in Reggio and editor of the *Revista di Freniatria e di Medicina Legale.*

A criminal process, some months previous, had called him to Livorno and there while performing duties in the interest of science and humanity, he was suddenly stricken with apoplexy on the thirty-first of March and two months later he entered into rest.

Carlo Livi was born in Prato on the eighth of September, 1823. He received his first scientific education in the Lyceum Cigonini, in that city. While in the University he was beloved and admired, both by his fellow-students and teachers, on account of his ardor, his vast knowledge in all branches of science and the simplicity and symmetry of his character. In the year 1848, when the cry of "liberty" sounded throughout his beloved country, he entered the battalion formed by the students of the University of Tuscany, which crossed the Apennines and occupied the city of Reggio. This sojourn in Reggio, Livi always regarded the happiest time of his life and he frequently referred to it.

Many of his best friendships dated from that time. Eager to take an active part in the war, the battalion crossed the river Po, passed Mantova, Curtatone, Montanara and S. Silvestre, and on the twenty-ninth of May, they were attacked by 30,000 Austrians, their own force numbering but about 6,000. After that glorious, but unfortunate campaign, Livi again turned his attention to his studies and completed his education in Florence, under the celebrated Bufalini. He began the practice of medicine sometime previous to 1855, in which year he materially helped to combat the ravages of the cholera in the infected districts of Mugello, Radifocani, etc. This period was also marked by his first literary labors, in the "Relazione sul Colera in Barberino di Mugello." In 1859 his merits were officially recognized, and he was intrusted with the management of the Lunatic Asylum in Siena, and shortly after he was appointed Professor of Legal Medicine and Hygiene in the University. From this time his fame extended far beyond the limits of his own country, particularly owing to his celebrated lectures on "Frenologia forense."

In 1870 he was appointed Superintendent of the Asylum in Reggio, which, by his successful management, became the seat of the psychiatric clinic of the Royal University of Modena, very popular among students of all faculties. Here he also founded the *Revista di Freniatria e di Medicina Legale*, which in a short time took a high place in medical literature. Among the noted writings of this celebrated author are those on "Lypemania stupida," "Paralysis progressiva," "Monomania" and "Capital punishment." Livi's untimely death is deplored throughout the world. His funeral was attended by representatives from all the Italian Universities.

"Non tutti i nomi escono dall' urna
Vale, o illustre per l'ultima volta, Vale!"
—*Gazetta del Farenocomio di Reggio, July*, 1877.

SAMUEL WARREN.

The decease of the author of the "Diary of a Late Physician," can not be allowed to pass without regretful remark. Mr. Samuel Warren was made Master in Lunacy in 1850, and has not of late years been much before the reading public. His last considerable work was a novel—"Ten Thousand a Year"—but it is by the "Diary" he will be remembered. When a student of medicine at Edinburgh University, nearly half a century ago, Mr. Warren obtained that acquaintance with the more personal aspects of our profession, which he evinced throughout the series of papers in *Blackwood*, afterwards published in the "Diary." It is impossible not to lament the loss of one who will live in memory as a rare exemplar of the art which produces pictures in words.—*The Lancet.*

SUMMARY.

—Dr. Carlos F. Macdonald, Superintendent of the Asylum for Insane Criminals at Auburn, has been appointed one of the Managers of the State Inebriate Asylum at Binghamton, N. Y.

—Dr. John Gerin has been appointed Assistant Physician to the Criminal Asylum, Auburn, N. Y., in place of Dr. Walter Channing, resigned.

—Dr. A. K. Macdonald, who has been Second Assistant in the New Jersey State Lunatic Asylum since its opening, has resigned that position.

—Dr. Richard Koch has been appointed First Assistant Physician to the State Inebriate Asylum at Bingham-

ton, and Dr. E. C. Kitchen to the position of Second Assistant Physician in the same Institution.

—Dr. W. W. Hester, who has been for the past twelve years Assistant in the Indiana State Hospital for the Insane, has been appointed Superintendent of the Kansas State Asylum at Ossawatomie, in place of Dr. A. H. Knapp, resigned.

—Dr. Joseph Workman, formerly Superintendent of the Insane Asylum at Toronto, was elected President of the Canadian Medical Association, at its recent Annual Meeting.

—We recently received an extensive report of evidence given before the Committee of Parliament appointed to inquire into the English Lunacy Law, as to the Security afforded by it against Violations of Personal Liberty. Want of space prevents our noticing it in the present issue.

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—Owing to the extent of other matter in the present number of the JOURNAL, the reviews of several American Institutions, and of the pamphlets received are necessarily crowded out.

PAMPHLETS RECEIVED.

Thirty-second Annual Report of the Prison Association of New York, with Documents: 1876.

Fifth Annual Report of the State Charities Aid Association to the State Board of Charities of the State of New York: 1876–77.

Handbook for Visitors to the Poor-house. Edited by FREDERICK LAW OLMSTEAD, of the State Charities Aid Association: 1877.

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On Medico-Psychological Evidence, and the Plea of Insanity in Courts of Law. By ALEXANDER ROBERTSON, M. D., F. F. P. S. G., Medical Superintendent Town's Hospital and Asylum, Glasgow, Scotland.

Heredity, as a Factor in Pauperism and Crime. By EDWARD H. PARKER, A. M., M. D.

Analysis of Seven Hundred and Seventy-four cases of Skin Disease. By L. DUNCAN BULKLEY, A. M., M. D.

The Strumous Element in the Etiology of Joint Disease, from an Analysis of Eight Hundred and Sixty Cases. By V. P. GIBNEY, M. D., Assistant Surgeon to the Hospital for Ruptured and Crippled.

Pompholyx, a Study. By A. R. ROBINSON, M. B., L. R. C. P. and S., Edinburgh.

Defects of Hearing and Other Evils; the Result of Enlarged or Hypertrophied Tonsils. By A. W. CALHOUN, M. D., Professor of Diseases of the Eye and Ear in the Atlanta Medical College.

Address Delivered before the Medical Society of West Virginia. By E. A. HILDRETH, M. D., President of the Society, 1877.

Annual Report of the Buffalo General Hospital: 1876.

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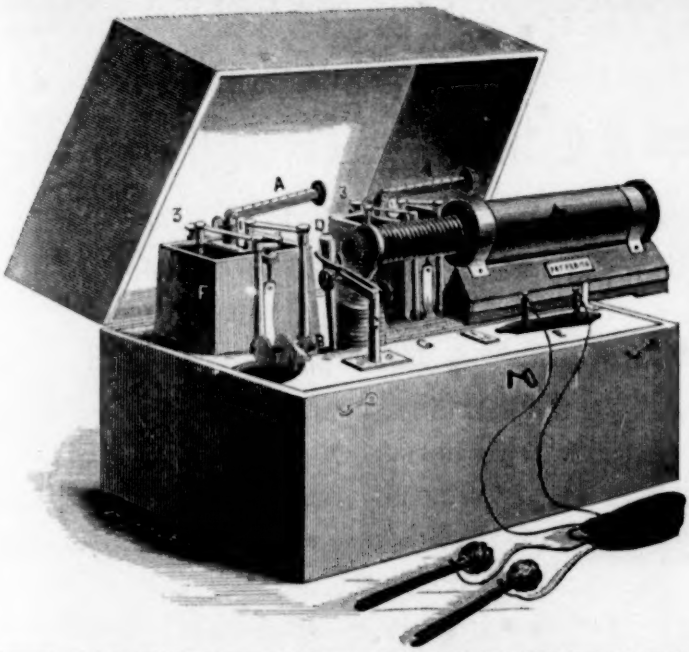

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